

# INDUSTRY CAR CRAFT

MARCH 1959 25c

ARE SCALLOPS OUT...

TOP NEW MODEL...

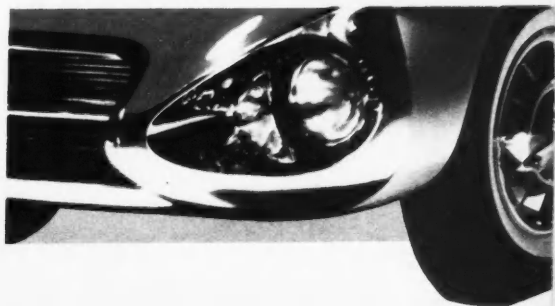
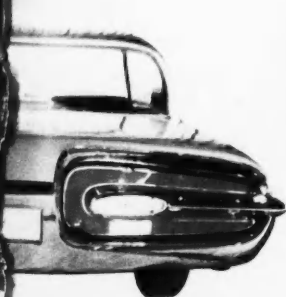
WILL SCOOPS STAY...

NEW FENDER FINS...

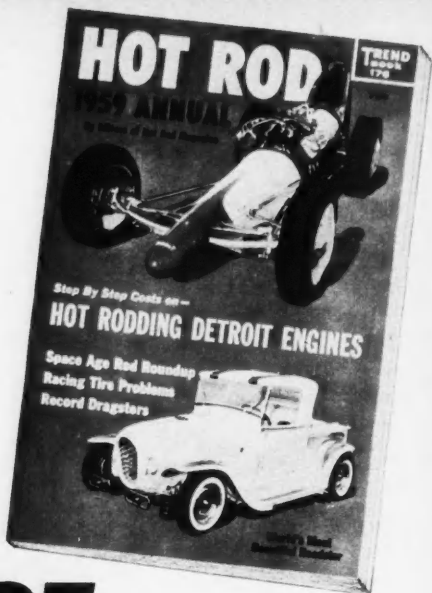
## CUSTOM FORECAST

### FOR 1959!

By the Nation's Top Custom Shops



**ON  
SALE  
NOW!**



# 1959 **HOT ROD** ANNUAL

**RODS • CUSTOMS • DRAGSTERS • LAKESTERS**

This year's edition of this ever-popular favorite is a "Space Age Special." The accent is on years-ahead thinking in hot rodding, from George Barris' futuristic "World's Most Beautiful Roadsters" to the Space Age Rod Roundup, a photo gallery of the sharpest hot rods in America.

And blasting off with plenty of rocket-paced reading are such aces as Huntington, Navarro, Francisco, Potter and many other stars in the hot rod galaxy, who bring you features like High-Performance Competition Engines, Hottest Cars of the Year, Racing Tire Problems and The Cost of Hot Rodding Your Engine.

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MARCH



# Just for the RECORD— it's WAHLBORG!

**Holder of More Track  
Records than ANY OTHER  
MAKE in America!**

We know you want the ultimate in safety, performance and durability in the Quarter or Half Midget you get for your favorite young driver (or his father!)—so we have built our midgets to that specification—"the tops."

It's fun to drive the best—it's satisfying to win from all the rest! You can have your FUN and SATISFACTION when you "Go with the Champion"—WAHLBORG!



**WAHLBORG 1/4 MIDGETS \$425-\$495**

**WAHLBORG 1/2 MIDGETS \$350**

**WAHLBORG ENGINEERING CO.**

3163 Pacific Coast Hwy., Dept. CC-3  
Torrance, Calif. • Box 1277



## SPECIFICATIONS

	300 Series (1/4 MIDGETS)	400 Series (1/4 MIDGETS)	500 Series (1/2 MIDGETS)
WHEEL BASE	42"	48"	52"
TREAD	30"	30"	34"
LENGTH (Overall)	79"	77"	80"
HEIGHT	25"	26"	30"
WEIGHT	160 lbs.	170 lbs.	200 lbs.
SEAT WIDTH	15"	17"	17 1/2"
COWL TO HEADREST	21"	22"	22"
DRIVE—Chain, Direct	Yes	Yes	Yes
Body—			
3 Piece Fiber Glass	Yes	Yes	Yes
WHEELS—Front	10"	10"	12"
Rear	12"	12"	14"
SUSPENSION—			
Terrace Bar	Yes	Yes	Yes
FRAME—Steel Channel	Yes	Yes	Yes
STEERING—Direct	Yes	Yes	Yes
UPHOLSTERY—			
Hangalyde	Yes	Yes	Yes
FINISH—			
Hand Buffed Lacquer	Yes	Yes	Yes
*ENGINE—			
CONTINENTAL AIR	2 H.P.	2 H.P.	3 H.P.

\*NOW! First with the new ultra-smooth Continental balanced power plant! Optional on all Wahlborg models—\$10.00 Extra.

# CANDY APPLE PAINT

**for your Custom or Rod**

The original Bailon "Candy Apple Red" is now available in ready-mixed form. Select your own underbase of gold, silver or copper—thin paint, then apply.

**Bailon's** "Candy Apple" is the original of the new translucent custom colors. Perfected and used exclusively 'til now—  
at Bailon's renowned  
California Custom Shop.



Direct all inquiries to:

**Bailon Custom Shop**

22756 Alice Street, CC-3, Hayward, California



# CRAFT

Volume 6  
Published Monthly  
Number 11

## features

### 18 CUSTOM FORECAST FOR '59

*Six of the nation's top customizers look to the future*

### 32 ACCESSORY OF THE MONTH

*Kolor Krome spray bombs are used to stylize hubcaps*

### 35 COMPETITION

*Immaculate construction of fabulous drag cars is shown*

### 51 THE "SECRETS OF CANDY COLORS"

*Part 2 reveals the preparation and application procedures*

### 56 COUPE DE GRACE

*One of the nicest renditions of the '36 Ford Coupe*

### 58 RESTYLING THE "EL CAMINO"

*Wtnfield's Custom Shop performs restyle on newest pickup*

### 62 NOT JUST A MERC

*Crossbreed of parts from many makes is combined with Merc*

### 64 ENGINE ANALYSIS

*Don Francisco explains engine details on a top gas dragster*

## departments

6 SHOPPING AROUND

72 WHAT'S YOUR PROBLEM?

12 CORRESPONDENCE

78 CUSTOM QUERIES

83 COMING ATTRACTION

## COVER

This month's intriguing cover shows just enough of some wild "dream" cars to whet your appetite for things to come. Will these styles be seen on customs in 1959? Six of the nation's top customizers reveal what they believe will be the styling trends for customs in '59. For the scoop — see page 18.

#### PUBLISHER

Robert E. Peterson

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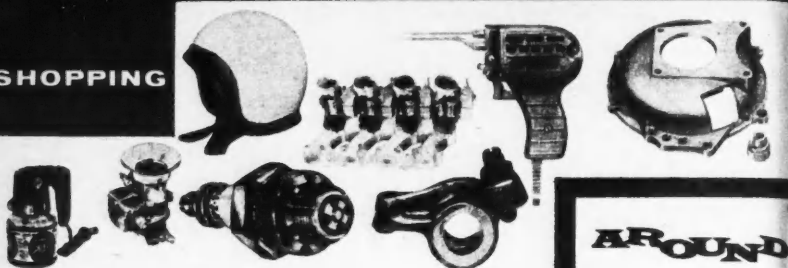
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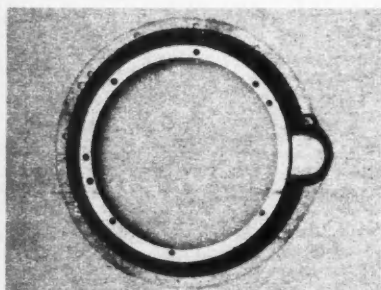
#### CREDIT MANAGER

Bob Hyland

## SHOPPING



**AROUND**



### CHRYSLER ADAPTOR

New Chrysler products adaptor permits use of Ford trans with '54-'58 Chrysler powerplants and all Dodge, Plymouth, and DeSoto engines through '58. Moves starter to the right side of the engine. Cast from aluminum, adaptor is heat treated and machined to closest possible tolerances. Price: \$59.50. Write: Wilcap Co., Dept. cc, 10215 S. San Pedro, Los Angeles, Calif.

### CANDY APPLE PAINT

The famous Joe Bailon's Candy Apple Paint was, until now, available only in his Northern California custom shop. Now, the original Candy

Apple paint is on the market and available to all who desire the translucent colors. Pick your own underbase—silver, gold, bronze—and follow the instructions with this ready-mixed paint. For information, write:

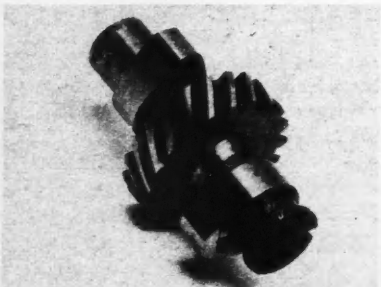
Joe Bailon Custom Shop, Dept. cc, 22756 Alice St., Hayward, California.



### CONTY CAM

Designed exclusively for the Continental AU7R engine is this new high performance cam. Precision ground with a hard surface, cam allows attainment of high RPM. Standard timing marks are used to install. Grind is designed to give intake passage smoother flow, thereby increasing engine efficiency according to manufacturer.

Special grinds available. Price: \$25.00. Write: Webco, Inc., Dept. cc, 218 Main St., Venice, Calif.



**"THE MONEY-SAVING WAY TO MAKE YOUR CAR  
GLITTER AND GLEAM AGAIN" — CAR LIFE MAGAZINE**

# REPLATE AUTO CHROME

**RIGHT ON YOUR CAR —  
WITH PERMANENT PLATING**

## BRING BACK NEW-CAR BRILLIANCE

Here at last is the car-owner's answer to all chrome problems... a way that you can do actual **ELECTROPLATING** right on your own car. You put a brand-new, shiny plating on bumpers, grille, all auto trim. You bring back new beauty and sparkle to your car... **INCREASE ITS VALUE**... make yourself proud to own and drive it. With **SPEED-PLATER** you put on new metal as you brush! And the plating you apply becomes an **INDESTRUCTIBLE PART** of the metal you plate... bonds itself on—forms a hard, sparkling, metal surface that defies all elements!

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Here is how easily you **REPLATE** your car... you simply clamp **SPEEDPLATER'S** wires to your car's battery, then dip **SPEEDPLATE** Brush into the miracle plating solution and plate anywhere around your car—without removing any parts. Safe, mild current works **FAST**—yet uses less battery juice than the tiniest light on your car.

**TESTED AND APPROVED  
BY LEADING  
AUTOMOTIVE MAGAZINES**

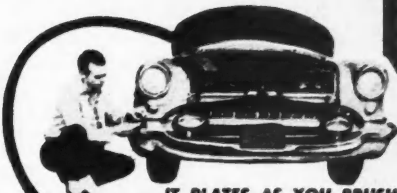
**MOTOR TREND Magazine**, New Products Test, July, 1958:  
"We deliberately picked a difficult test area which was badly pitted and corroded... Our Plating kit was the Empire Speed Plater. The final result matched the chrome and was entirely satisfactory. Anyone should be able to obtain similar results..."

**ROAD & CUSTOM Magazine**, New Product Test, April, 1958:  
"Speedplater not only can be used to restore scratched, worn or blistered chrome on any part of your car, but can be used to plate metal not chromed before... For those wishing to plate their own items right at home without having to depend upon a commercial chrome shop, we'll vouch for the Speedplater's doing the job by saying that it works exactly as described, giving a lasting, durable, bright coating."

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Now you can make **TERRIFIC PROFITS** plating right in your own shop—without removing bumpers, grille, etc. Increase value of your used cars! Touch up new cars! Restore worn chrome parts to bright, new sparkle! Buckle Dealer says: "Wonderful. We had excellent results!" Heavy Duty Outfit electroplates on cars not from standard 12 volt battery. Entire Outfit, COMPLETE, only \$34.95. Includes Plating Brush with Permanent Anode, Wires and Clips for Battery Connection, Special Buffing Wheel and Compound, Special Grinding Wheel, Stripping Solution to remove old chromium, Rust Remover, Special Polish, enough Plating Solution for dozens of cars! You quickly make back entire cost on your very first job! Additional supplies always available from us at rock-bottom prices. **MONEY BACK GUARANTEE.** Order now. IF C.O.D., send \$5 deposit.

**CASH REFUND IF NOT COMPLETELY SATISFIED**



**IT PLATES AS YOU BRUSH**  
Brings New, Gleaming Beauty to  
Worn, Dull, even Blistered  
Chrome Areas of Your Car.



## MAKE BIG MONEY PLATING

Now you can add to your income during spare-time hours... because 8 out of 10 cars on the road today **NEED RE-PLATING**. You can charge \$3.00 for touching-up to \$50.00 for replating an entire car.

Plating is fun, too! You'll get a kick out of taking rusted, pitted, worn metal and bringing it back to shining smoothness. When neighbors see the brilliant plating on your car, they'll want you to do the job for them.

And you can plate other things for profit, too... faucets, appliances, tableware, cutlery, tools, doctors' and dentists' instruments... you can get more solutions at low prices any time—also solutions to plate silver, gold and rhodium. There's big money in jewelry and silverplate work! You get ALL INSTRUCTIONS for plating with your Speedplate Outfit!

## MAIL COUPON NOW—YOU RISK NOTHING

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Name \_\_\_\_\_  
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CAST ALUMINUM GRILLE ..... 3.50  
1/2 MIDGET BODY ..... 59.50  
(Complete Tax Incl.)

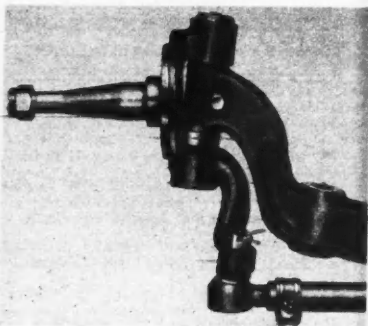
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## SHOPPING AROUND

### SPEED-SPORT OIL

Long time experience in automobile racing competition has given valuable information for development of this new oil now available for foreign cars, hot rods, racing engines, and any car which is put into severe use. Manufacturer claims that oil will eliminate cam and piston wear, maintain higher pressure, stop scoring and improve performance.

Write: D-A Lubricant Company, Inc., Dept. cc, Indianapolis, Indiana.

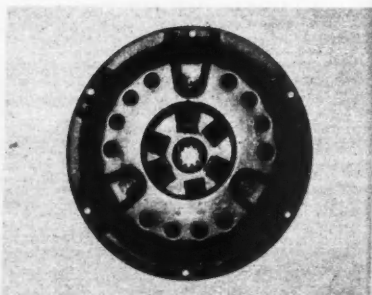


### PREST-O-SEAT

Just the thing to take to the drags or the quarter midget races is this comfortable portable seat. Made of aluminum alloy, the seat is 32" high and weighs only 23 ounces. Handy handle allows chair to be carried on the arm; will support 500 lbs. according to builder.

Available in different colors. Price: \$9.95.

Write: Wamco, Inc., 1342 W. Slauson Ave., Los Angeles, Calif.



CAR CRAFT



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Get down to earth and enhance the profile of your car with one of these new dropped front axles. Available now for Fords and Mercurys vintages '29 to '48 at \$17.00, late model Ford and Chev pick up trucks at \$25.00 exchange. Chromed axles are also available at \$20.00 extra. Precision made from finest materials. Write: Bell Auto Parts, Dept. cc, 3633 East Gage Ave., Bell, California.



#### CHEVY CLUTCH

Constructed of cast iron, the new Chevrolet clutch pictured here is the latest in a long line of clutches issued in the "Challenger" series. This clutch is capable for either street or competition use. Manufacturer claims easy and quick installation, with no adaptation necessary. Pressure plate and clutch plate are included in the price: \$55.00. Write: Hays Racing Clutches, Dept. cc, 1523 S. Ross, Santa Ana, California.

MARCH, 1959

WALL



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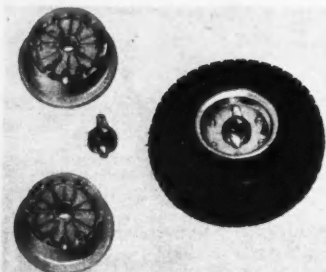
VETERANS: Give date of Discharge \_\_\_\_\_

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## MOSS WHEELS



### for GAS CARTS, QUARTER MIDGETS, HALF MIDGETS

Roll to victory with the Moss "competition wheel." For the first time, here's a wheel that carries the load where the load should be carried, thanks to specially designed webbing. Saves 8 pounds of dragging weight per car. Get 50% more strength. Moss wheels are vacuum cast in an ultra modern pressure mold for maximum durability. 5" and 6" wheels now available, beautifully polished . . . complete with aircraft self-locking nuts . . . knock-off hubs and sealed precision bearings also available.

**5" wheels — \$7.25, 6" wheels \$8.75**

including hardware and machining

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## BUILD YOUR OWN 1/4 MIDGET

Have Fun (and save money too)



BODIES COME IN PRIME READY TO PAINT.

3 piece bodies made of fiber-glas, sturdy and easy to fit.

Price (body only) **\$49.95**

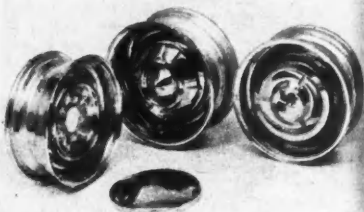
Send check or money order only.

F.O.B.—Huntington, Ind.

**SOUTH SIDE BODY WORKS**

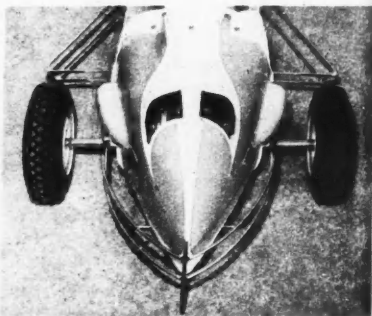
1340 Grant St., C-3, Huntington, Indiana

## SHOPPING AROUND



### CHROMED WHEELS

If you've been wanting some chromed wheels, reversed or stock, then here is what you've been waiting for. All popular makes of wheels are now being offered on the market, completely chromed, realigned and guaranteed. Wheels are entirely disassembled to insure thorough plating. 14, 15, and 16 inch sizes available. Prices: \$22.50-riveted; \$24.75-welded. Appliance Plating Co., Dept. cc, 1719 W. Rosecrans Blvd., Gardena, Calif.



### TAIL CONE VENT

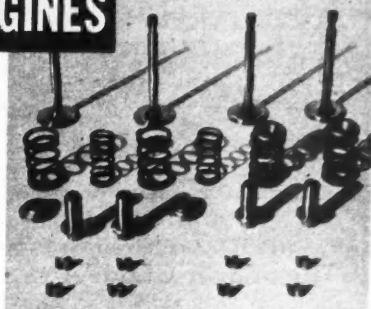
Latest design feature for the midget racers is this new vented tail cone. Designed to allow air to escape from tail and permit greater cooling for engine, vent also facilitates easy tuning and adjusting of the engine. Manufacturer is convinced that this modification could spell the difference between winners and "also rans." Come on all cars. Write: Wahlborg Engineering Co., Dept. cc, Torrance, California.



## 1/4 & 1/2 MIDGET ENGINES

Leading mechanics and modification shops know from experience that they can depend on Solt parts and accessories.

To get the top performance and reliability from your midgets, use Solt parts.



See your local Dealer for free brochure & decals or send 25¢ for brochure & decal

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**SOLT ENGINES**

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## SHIFT FASTER

This transmission box is the column shift type used in 1939-48 Cads and La Salles. It has been converted to a floor shift by the attached TORNADO Conversion Linkage.

... get a  
**Tornado  
FLOOR SHIFT  
Conversion Kit**

Rev.

2nd

These kits  
have standard  
shift pattern

**\$29.95**

f.o.b.  
Oakland, Calif.

Low

High



Kits contain complete linkage as illustrated. Everything you need to connect your transmission is right there ... plus simple installation instructions. Note: It won't fit automatic transmissions.

**Convert your column shift to a floor shift!**

Tornado Floor Shift Conversion Kits are available for 1939-57 Fords and 1949-57 Chevs ... and for any car in which a 1939-48 Cad or La Salle box has been installed (unless rear trans housing has been altered). Kits for other cars to be announced soon.

WRITE DEPT. CC-3

### How to Order:

Specify year and model car, also if overdrive or not. Enclose \$10.00 deposit (balance c.o.d.)

**Lee's SPEED SHOP**

1143 E. 14TH ST. OAKLAND 5, CALIF.

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## ACER-RACER

Racer Kit  
\$129.50  
Completely  
Welded Racer  
Kit—\$165.00  
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### Learn Auto Mechanics at Home in Spare Time

Tie this for opportunity! Right now, America needs 100,000 newly-trained mechanics. By 1967, when 90 million vehicles will be on the road, America will be short 600,000 mechanics! Many earn up to \$3.00 an hour. Learn this well-paid, secure trade at home. CTI shop-method is easy, fast, sure. Mail coupon for free new Catalog and Lesson Sample. Act today.



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## LETTERS

### "PRETTY PICK UP"

Dear Sir:

I think your mag is really tops and I have been reading it for quite a while. I have often thought about seeing my own car (or truck) in it. I am enclosing a few pictures of my '49 Ford pickup truck. I sure hope you can put them to use.



To start with I took the stock grille out and replaced one made from expanded metal. I then removed all the chrome from the hood and had all the holes leaded in. While the body shop did this, I had them put a gravel pan in the back with the states plate in the middle and a pipe and glasspac on both sides. I then purchased a set of Chev tear-drop fender skirts; along with the skirts, I put to use a pair of '50 Pontiac blinkers, located at the very bottom of the fenders. After this was all completed, I decided I would need a set of good looking hubcaps to go along with the 3 coats of hand rubbed black lacquer. I then noticed an article in your advertising section about spun aluminum discs. I bought 4 of them and had them dyed gold to contrast with the black paint job. The inside is all white with a touch of black pinstriping. The seat covers are black and white in a diamond pattern. As for the mill, it is stock except for milled heads and dual

CONTINUE

### JACKET EMBLEMS

**LAVY LOGO**  
Full color or 25 monochrome \$5

4" Felt Emblems — 25  
7" Felt Emblems — 25  
10" Felt Emblems — 1.00

Badges available in same sizes at the same price. Specify when ordering.

### PERSONAL NAME EMBLEM

Red Embroidered on Distorted White Background

Full color . . . 25¢

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—for NEW completely illustrated catalog emblems, novelties and accessories— 25¢

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**SPOT ENTERPRISES**



SAM HANKS, '57 INDIANAPOLIS 500 WINNER AND TECHNICAL ADVISER FOR MOSS ENGINEERING, SAYS, "IT'S WHAT'S INSIDE THE CAR THAT MAKES THE DIFFERENCE."

## NOW — Get the "Inside

### Facts" on the sensational Moss Midjet!

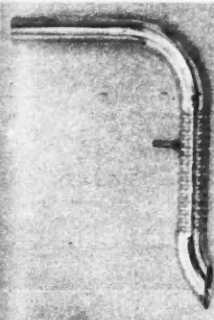
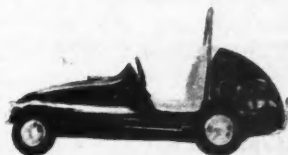
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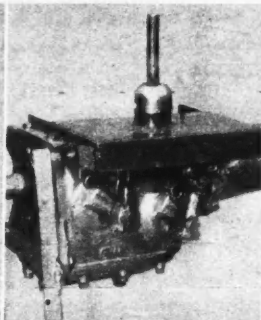
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## LETTERS

CONTINUED

exhaust. In the near future I plan to have it bored out and a set of Strombergs installed.

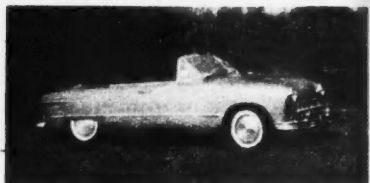
Thanks for all the information and ideas I have gained from your mag.

— Jim Green  
Wormleysburg, Penn.

### CLEAN CONVERTIBLE CUSTOM

Dear Sir:

I have been reading your fine magazine for years, and would appreciate it very much if you could find space for my '49 Ford convertible.



It is Oxford Gray, and is powered by a supercharged T-Bird engine with dual quads. A LaSalle stick is also used. The body is dechromed and seamed. The molded Chevy grille has extra teeth added. Lowered fore and aft. The car is pin striped inside and out.

— Ed Sterling  
Wethersfield, Conn.

Appears to be very clean, indeed.—Ed.

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Dear Sir:

I have enclosed two pictures of my '55 Merc. I have leaded the hood, trunk, and door handles. The doors and trunk are push button. I have lowered the hood, frenched the



headlights and taillights, added '57 DeSoto grille and bumper, and a '55 Pontiac rear bumper. I have leaded the gas filler pipe and run it into the trunk, also put air scoops in rear fenders. Special made skirts, full length chrome pipes and '56 Dodge hubcaps. I am going to work on the engine now. It is still stock.

— Bob Cusic  
Washington 20, D. C.

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This unique product is sufficiently transparent to let the deep down sparkle of your chrome come through in brilliant color. It is ideal for hub caps, grilles, side chrome, engine parts, or any mirror-like surface. The convenient 16-oz. pressurized can gives you a fine, controlled spray of dazzling color with just a touch of the finger.

KOLOR KROME is available in four quick-drying colors: Pagan Gold, Candy Apple Red, Oriental Blue, and Parisian Green. Unlimited designs and combinations are possible to give your car the eye-stopping George Barris customized look.

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## 17





# CUSTOM

By Bob Behme

Photos by Behme, Guerrero, Cusick

**W**ILL THERE BE something we can call a distinctive '59 custom car look? How will it differ from '56, '57 or '58 customs? What will be the style: big tail fins, small tail fins or none at all; scallops, multiple colors or single colors? Does one 1959 car have a standout customizing potential?

Could you answer these questions? Men from six of the nation's top custom shops did when they looked into the future to predict the custom cars you will be seeing tomorrow; to predict how cars will be customized and to describe them in detail for Car Craft reporters.

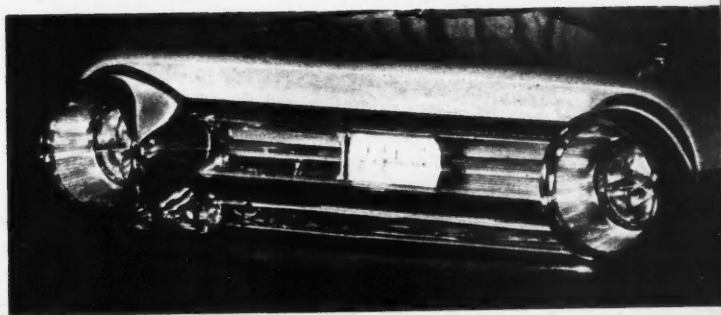
These predictions came from men, tops in the field from the east coast to the west coast; men who today set the pace for tomorrow. Their answers are based on two factors: the cars they will build in 1959 and the designs they think will interest car owners this year. During exclusive interviews we asked them 25 questions covering the field of custom cars. Car Craft editors found that answers varied, sometimes because of regional differences in design and taste and sometimes because of personal preferences, but they also found an unexpected unity as customizers work closer to an 'American Custom' look as Detroit has done with stock cars.

For example: all customizers interviewed felt that the trend was toward simpler custom design. All felt that Detroit's shift to the lower, thin-line silhouette was here to stay, to influence stock car and custom car design for several years. There was agreement on trends such as multiple headlights, straight bar grilles and painting, but there was disagreement on how these trends would develop. Car Craft's first annual survey of the future of custom design gives this year's clearest look at tomorrow's customs.





# FORECAST





## CUSTOM FORECAST '59

**J**OE BAILON, energetic customizer in Hayward, California, took time from the construction of new tail fins to talk with Car Craft's reporter. He began by describing the future of fins and he pointed out, "The trend is toward fins...big enough to see yet subtle enough to be in good taste. The greatest interest will focus on the 45 degree types, yet we've got to move fins in all directions: fins can't remain stylized or static. General Motors is a good example of this. The Cad fin is straight up. Buick fins are straight out. Chevy fins are at 45 degree angles. You'll see the same variation on customs. The preference will lean toward 45 degree fins, but the design will still be fitted to the car."

### ON NEW CARS:

"The car of the year is Chevrolet. It will top all other makes for customization. Buick is streamlined, as is the thin bodied Chevy—they are from the same school, but the price will always favor Chevy. The Chevy will be a boon to the people who want to customize on a shoestring. It needs so little."

### ON QUAD HEADLIGHTS:

"Chevy is the reason there will be more interest in quad lights this year," Bailon said. "You'll see customizers devising thousands of ways to use them. Lights will be in every possible position. Lights will be lowered, probably as much as vehicle codes will allow—say 26 to 23 inches above the ground. The Chevy lights will provide the most popular mounting for customs and you will see the use of more chrome around them. On many versions we'll build chromed grilles around them."

### ON SCOOPS:

"The 1958 Chevy is responsible for the increased interest in scoops. The idea of body scoops and top scoops is catching on. Someday you will see them all over cars. This year I'm building a Chevy with 22 scoops on it. There will be other cars with even more."

### BUMPERS AND GRILLES:

"On the other hand," Bailon continued, "the bumper and grille combination has not caught on in Northern California. Here, car owners seem to want simple front end designs. That means plain, straight bar grilles."

## BAILON CUSTOM...



*"Fins will move out in all directions . . . scalloping is a fad . . . it's on its way out . . ."*

The simple chromed conduit pleases them best. I've noted very little interest in bolt-on grilles. People want handmade, one-of-a-kind grilles, and they are willing to pay for the work."

### ON ROLLED PANS:

"With the new interest in nerfing bars I find a new interest in rolled pans. It is probably the hottest idea in 1959 customizing. A rolled pan and a thin bumper or nerf bars, is a really lovely sight to see. It gives the car that 'polished' look."

### ON 1959 COMPONENTS:

We asked Bailon what 1959 components would prove most popular with custom car owners. He said, "You will see a lot of '59 material on all kinds of customs. Perhaps the most important development will be the use of the new, fuller windshields and rear windows. These new wrap arounds will open new custom styles and I think the boys will go for them. We expect big things from the new window designs."

### TAILLIGHTS:

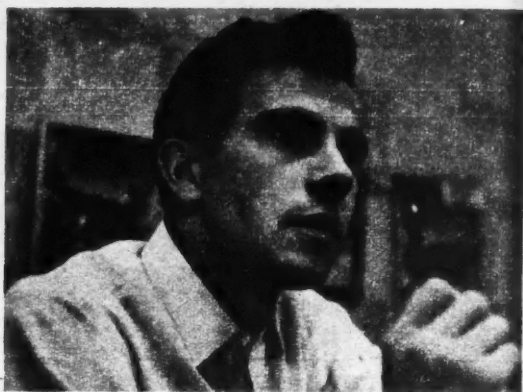
Bailon disagreed with some of the cus-

tomizers. Many felt that big taillights were on the way out. Bailon said, "Taillights are still an important part of customizing. The boys still like them big and they like them plentiful. They'd rather have four big ones than six small ones. The smallest I can go this year, will be the Impala. I'll be using a lot of them this year: four, six, even eight in big, dramatic ways."

### ON PAINT AND CHROME:

"I'm developing new colors for '59," Bailon said, "and I am coming out with two new colors based on the popular Candy Apple idea I developed two years ago. These will be heavy colors, like Candy Apple Red, but of new colors and tones. Most boys want single colors and those colors have to be powerful enough to stand alone."

"On the other hand scalloping can't stand alone," he added, "It is a fad, and a nasty one at that, but it is on the way out in Northern California. It has been tamed. You see it only on junky cars, ready for the scrap heap, which can't be hurt by it. On good cars the paint jobs and custom work, doesn't need this garish type of trimming."



## CUSTOM FORECAST '59

**"THE REAR END** grille treatment is the newest and most exciting way to dramatically customize a car." Darryl Starbird, owner of Star Kustom Shop in Wichita, Kansas, told Car Craft reporters, "It gives the customizer a new way to make a car outstanding. Detroit has barely scratched the surface in its stock rear end grille treatments on the '58 and '59 cars. They've left the field to the customizer and he is free to elaborate on the idea. You'll see rolled pans, taillights and bumpers incorporated in custom versions of rear end grilles."

### ON TAIL FINS:

Starbird's theories on rear end grilles brought the conversation around to tail fins and he said, "Fins have to become popular, they are a part of the new rear end treatment. They are moving out, in the canted style and in '59 they will have more of a razor edge to them. The big, exaggerated fin makes the custom look out of balance. They will be rarely used. The Buick and Chevrolet opened the gate for the future style of fins. These particular fins can be grafted on the top of many fenders. They possess a distinct contour of their own and they do not have to follow the original contour of the fender. That alone will reduce customizing costs and make fins more popular on many makes of cars."

### ON WHEEL DISCS:

"Wheel discs will be very important, as they've been in the past. The '59 Dodge is an attractive unit which should find wide acceptance. There will be an even greater move toward custom caps because of the increasing variety of bolt-on accessories now available. Today, no one has to accept stock caps unless they want to. Yet, with the interest in unusual caps you will find that color chroming is out. Caps will become much more radical."

### ON PAINTING:

Starbird also saw a new trend in painting, a trend toward single colors with power in them. "Colors will be used with simple side trim," he predicted, "Red, maroon and copper seem the most popular colors in the midwest."

### ON NEW CARS:

"The pickups will prove the hottest custom bait this year," Starbird said, "and the 'El Camino' will top the field although the 'Ranchero' will be a very close second. These pickups are a natural for customizing and they can be made distinct at a low cost."

"This is the reason," he continued, "that the Chevy will be the most customized '59 car. It has a body style which can be customized distinctively on a budget."



## STAR KUSTOM...

*"Pickups will be the hottest custom bait this year ... the 'El Camino' will top the field ..."*

### ON NERFING BARS:

Car Craft queried many custom builders on the swing toward nerfing bars. Starbird forecast a new interest in bars this year saying, "Nerfs will find new popularity, not for functional reasons, but because they give the customizer an outlet to complete rear end or front end design without the restrictions of Detroit-made bumpers."

"Some of the new interest in nerfing bars is a reaction against this year's massive Detroit-built grilles. Detroit has gone overboard on them. Heavy grilles look out of place on most customs. The clean rolled front end, for example, with nerfing bars, a simple bumper or a simple bumper and grille combination works better. The simple front end will be a most significant '59 trend and nerfs will be a part of the story on many cars."

### ON 1959 COMPONENTS:

"We'll be using a lot of '59 components on our cars," Starbird told us, "and the '59 Plymouth lower grille scoop will be among the most popular. It can be used alone or in pairs as grille shells. Rolling the rear end is now very popular. We'll build much of it by hand but we will be using some stock components. For example, you'll see quite a lot of double contours in this year's rolled rear ends. Here, we could make them by hand, but we could also use the '59 Buick lower rear panel. This panel can fit a variety

of cars. The '59 Pontiac grille and headlight combination will be used extensively. I like the front grille bar, headlights and rear bumper on the '59 Imperial, but they cost like the devil and that will limit their acceptance."

### ON TAILLIGHTS:

"There will be a growing interest in taillights this year," Starbird pointed out. "Large lenses have been popular for several years and they will continue to be popular but you'll see a gradual shift toward quad lights in the rear. The fin has replaced the taillight as the visually important rear end item and while this takes some of the interest off the taillight, the taillight becomes important in a new way. I plan to set taillights in concaved areas, similar to the Corvette. When used in combination, I like to use large lenses, but Detroit didn't give me much to work with this year."

### ON SCOOPS:

We asked Starbird for his reaction to scoops. His thinking followed the lines of others we interviewed. He told reporters, "You will see an increased interest in scoops this year, but they will not be used as we've used them in the past. The '58 Impala set the tone and a lot of customs will want to copy it. I plan to introduce a variety of scoop styles this year. Antennas will become an important part of custom styling and they will be mounted in different kinds of scoops."



## CUSTOM FORECAST '59

**N**EIL EMORY and Clayton Jensen are noted for their high quality, conservatively styled customs. At Valley Customs, Burbank, California, they took time from their latest versions to answer Car Craft's reporter.

### NEW CARS:

We first asked about the 1959 cars. Neil answered, "The top custom this year will be the '59 Chevy. It has more to offer the people who want to customize... big sales, low price and good looks. Most fellows are very interested in the initial cost of a car and the money it will take to customize it. Chevy has good horsepower, plus a good looking body which can be customized without a lot of expense."

"The same thing holds true of the pickups," Clayton added, "There will be more interest in pickups this year and the emphasis will be more on the small trucks, the stylish ones. Chevrolet's 'El Camino' will fill the bill perfectly... a pickup that looks good, can be customized for little and costs little initially."

### ON NEW CAR COMPONENTS:

There will be new interest in bolt-on components, according to Neil. He pointed out, "The full line of General Motors bumpers will find a large public. The Chevrolet and Buick bumpers are quite narrow this year. The narrow width makes them excellent for use on older cars as well as new ones. Buick taillights, Olds taillights and Plymouth taillights are going to be very popular for a lot of the older cars. The long, pointed cone of the Dodge taillight, for example, will be universal in adaptation."

### ON HEADLIGHTS:

The subject shifted to headlights and we asked Neil and Clayton about the quad lights. Clayton answered, "Quad lights have arrived... for a while at least. The smaller diameter bulbs helped get the trend moving. Small bulbs can be used on more cars than the larger ones. There will be greater interest in quad lights this year and that will place greater interest on the front end design. The nice thing about quad lights is that they can be used in a variety of ways. You

CAR CRAFT



## VALLEY CUSTOM...

*"Top custom this year will be the '59 Chevrolet... rolled pans for late models will be the big item..."*

will see more grille and headlight combinations than ever. The lights will be pulled apart and the effect will be that of a wider, lower front end. There will be more imaginative use of glass and probably even a single piece of glass for both **headlights**."

### ON FRONT ENDS:

"The fellows are still looking for something new up front," Neil said, "But they seem to like the straight bar grille better than in past years. It is part of a search for something that is different but inexpensive. The straight bar grille with expanded or perforated metal as a background is catching on: it is not yet a trend although it could assume those proportions."

### ON ROLLED PANS:

The talk about grilles brought with it talk of rolled pans, their future and the development of this interest. Clayton pointed out, "as we cut down on grille and bumper areas we pave the way for the use of the rolled pan."

"That is an idea that is assuming the importance of a real trend," Neil added, "The use of narrow bumpers such as those on the Chevy or Buick, will allow more display of the pan. That will add pressure to the trend."

The pans will be built into cars, integrated in ways never before seen. We'll be adapting stock pans such as those from Plymouth, Studebaker and Chevrolet but there will be a lot of special pans with custom scoops underneath."

### ON REAR END GRILLES:

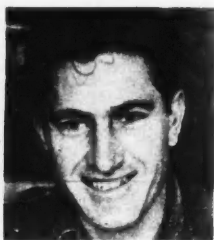
"You will see more interest in rear end grilles," Neil continued, "such as those on the '58 and '59 cars, but it will not be a sweeping trend. Rear end grilles are a paradox: a nice sounding idea that looks good on paper, costs a lot to build and often doesn't look good when it is finished."

### ON TAIL FINS:

"On the other hand," Clayton said, "There will be more interest in tail fins. Detroit ended the horsepower race and changed to the design race. Now everything is a combination of radical design and simple, clean lines."

"General Motors, with its cycle of a new body style every year will make custom designs obsolete just as fast as it will make stock car designs out of date," Neil said, "Buick and Chevy will lead the way in fin design. You will see more customs sporting similar styles, but the custom versions will be more exaggerated."





## CUSTOM FORECAST '59

**G**ENE WINFIELD of Modesto, California was very interested in the future of taillights and he began the interview with that subject. "The big taillight is going out of fashion here," he said, "Today, the trend is toward smaller lights. I'm trying a new idea which will take away even more emphasis from taillights. I call it 'hidden taillights.' It is legal and hinges on the idea whereby the taillights are worked into the body design and covered. They harmonize with car's contours. In the day you can't see them unless you step on the brake pedal. The way that I handle it depends upon the car, but one way is to camouflage the lenses with chromed and polished sheets of perforated or expanded metal."

### ON EXHAUST:

"Hidden taillights, or just de-emphasizing the taillights, will make the exhaust more important." Winfield added, "And it is now a big part of the custom picture. The outside exhaust is finding new popularity. We've been working with outside exhausts for some time and the car owners like the way it is done. For example, on many customs, I bring the exhaust outside through the front fender, working the opening into the fender con-

tours. The chromed pipes, which are then visible, become a part of the side of the car, like chrome trim. I think this is one idea which will catch on in Detroit. Remember the Cord? The outside exhaust was a big part of its design and a major part of sales appeal."

### HEADLIGHTS:

When Car Craft queried Winfield about quad headlights he said, "The quad light is here and nothing short of a styling revolution can remove it from the design picture. The slanted style of lights is more popular because it works best on older cars. We'll be using some '58 and some '59 components. The year of the light doesn't matter much; in many cases the units are identical and in all cases they are interchangeable. There are some new stylings, to be sure. For example, the '59 version of Lincoln's quads is better than its '58 style and the '59 Chevy version is superior to its '58 styling. But we will use any year and any make. It will depend upon what we plan to do and the way in which they will work into our design."

### ON SCOOPS:

Our conversation changed to the subject of

CAR CRAFT



## WINFIELD CUSTOM...



*"Painting will be the thing to watch... colors and techniques will be out of this world..."*

scoops. Winfield agreed with others when he said, "Scoops have become an important styling tool. They will be popular on tops, Impala style, and in this way they will become even more popular. Yet they are less popular on hoods, skirts and fenders."

### ON BUMPERS AND GRILLES:

"On the other hand," Winfield said, changing the subject, "The bumper and grille combinations of last year's stockers is popular this year on customs. They will be used in combination with straight grille bars to create a simple, integrated design. The rear end design will follow this pattern. We'll see repetitions of the simple front end in rear end grilles."

### ON NEW CARS:

We asked Winfield about the new cars, which would work best for customizing and which would be most popular. He picked a General Motor's car, but his reply was different than other customizers. He said, "Pontiac is the sleeper of the year. I think more people will like its lines, despite a steeper price. This will be a good year for Buick—as a matter of fact this is the first year I've liked Buick lines—but Pontiac will have the edge."

### ON 1959 COMPONENTS:

"There are so many '59 components which

can be used on all cars that the list is nearly endless," Winfield said, "The Pontiac side trim will be very popular with many cars. The '59 Plymouth lower gravel pan is another great item. I've ordered two of them and I don't even have a car in mind. That's how certain I am that they will find popularity. The same thing goes for '59 Cad taillights. I've ordered two sets because I feel they can't miss. The '59 Dodge taillight is another item. The Buick rear bumper, a plain, smooth piece of metal, will have a lot of acceptance. The Buick rear pan will see a lot of duty. It is quite versatile. It can even be used as a belly pan on earlier cars."

### PAINTING:

"Painting is seeing new trends, too," Winfield told us. "The choice of colors varies with the region, but there is a national popularity toward strong, single colors. I've got some new colors for '59 and the most popular seem to be Orange, gold and lemon."

"I've started a new idea in painting," Winfield said, "and it seems to be catching on in a big way, I call it 'fading.' It is a multiple color paint job that looks like one color. Instead of abrupt changes in color, the car is painted one basic color. It has different hues blended into the basic color at strategic points along the body lines. It gives the impression of a single color with multi-colored reflections in all the right places."



## CUSTOM FORECAST '59

**JOHN HYCHKO**, owner of Valley Auto

Body shop in Waterbury, Connecticut, spent several hours with Car Craft's reporter probing the future of custom cars. His ideas, always dynamic, were not always in agreement with other customizers, but were always well founded. For example, we asked about wheel discs and he replied, "Some designers have said that bold wheels and wheel discs are on the way out. I can't believe this. Reversed wheels are popular and they are good as are simple hub caps, but they are not cure-alls. We'll need, bold, dramatic custom caps for a long time."

"This year's crop of cars," Hychko added, "have larger wheel openings. That places more emphasis on caps. But colored caps are out, used very little if any, because they clash with the body colors. You'll see bold designs this year and the '59 Olds cap will be a good bet for customization."

### ON NEW CARS:

Hychko picked a '59 car that had not been chosen until we talked with him. His choice and his reasons are quoted, "This will be a popular year for Ford. It has square lines and all of the panels are flat. It provides a good start for customizing. You can easily extend body lines and gradually sweep up the lines to improve the contours without a lot of lost

labor or money."

"There will be more interest in '59 components," he added, "For example the '59 Olds top bumper will make a good floating grille in many cars. The '59 Chevy taillights will be excellent in a vertical position on quite a few of the older cars. They should be very popular on the '57 Ford, in rear portions of the quarter panels, where there are flat spots to mount them evenly."

### QUAD LIGHTS:

Hychko was in agreement with his counterparts in other parts of the country on this subject. "Quad lights," he told us, "are here to stay. You see them on all of the show cars and that is the most important gauge: if it means winning trophies they'll be on all cars. The most popular lights will be on the '59 Chevy units. We'll see them used in many ways. One of the most popular will be in front of fading grilles as units which can be tilted and set independently of the fender contours."

### TAIL FINS:

"The same thing goes for tail fins," he added, "The use of fins is increasing and it will continue strong. High tail fins always make people take a second look at the car sporting them. That's one of the aims of



## VALLEY AUTO BODY...

*"With larger wheel openings this year we can expect more emphasis on wilder hubcaps..."*

customizing: the second look. But where the people look is just as important. Too much fin takes away from the other components. We are going to have to have simple fin designs to maintain a balance between the rear end and the rest of the car. Too much change in design at the rear, just to get the fin into the picture, is worse than no fin at all. The '59 Plymouth fin is a good example of what is good and what could become popular. It has a small, compact half roll that is pretty but not aggressive."

### BUMPERS:

"The bumper and grille idea is gaining this year. It is a simple, almost one-step job, and that means that it costs little and gives a lot in the way of looks. But I don't see the thought in repeating it at the rear. That is, the rear end grille and bumper design doesn't seem to be catching on. Instead, you'll see more plain rear end designs with a minimum of chrome and different contours with involved metalwork and rolled lower pans."

### TAILLIGHTS:

"There is a new kind of interest in taillights this year," Hychko answered, "The trend will be toward quad lights and possibly six or eight of them. Most customs are getting lower and wider so that they accommodate multiple lights effectively. On the

other hand the fashion of tunneling taillights is almost out of the picture. It is still a good trick for mild customs, but you'll find that '59 taillights will receive more customizing in the glass shop than in the body shop."

### FENDER SKIRTS:

Hychko had this to say about fender skirts: "They are out of the 1959 picture. They will not have even the slightest popularity except on older cars. If any skirt catches on, it will be the Merc skirt: it is least offensive and easiest to work."

### EXHAUST:

"On the other hand," Hychko said, "the use of outside exhausts is moving forward. You will see more outside exhausts this year and more cars will make use of side pipes. The trend seems to be toward showing the exhaust system."

### PAINTING:

"A lot of fellows have said that scallops are a passing fad. I don't believe that. I think that scalloping is here to stay. It is a good way of working design into flat panels on a small budget. Add to this the fact that it is a good cover up replacement for chromed areas. There will be many reasons why scallops, tastefully done, will be with us for several years."

# CUSTOM FORECAST

'59

*"We will see the introduction of "plastic" customizing this year ... a new low cost, easy-to-replace technique ..."*



GEORGE BARRIS, long noted for radical, years ahead customs, predicted that '59 will be the year of the "Integrated Custom," the year when the car will create one impression front to rear. He began his explanation with the subject of quad lights.

"Quad lights will be more extreme this year," George said, "They will be larger, spread farther apart and wider. You will see them scooped and worked into the fenders better. For the first time in history the shape of the bulb has become an important part of the headlight design. For example, I've been trying to find someone who will make square bulbs for me. I've got a hundred uses for them."

"But square bulb or round bulb, you will see the headlights used more dramatically than ever. Everything will conform this year. There will be more interest in lights, bumpers and grille combinations as a part of this search for conformity."

## BUMPER AND GRILLES:

"The idea of conformity through bumper and grille designs is gaining. We've been working with it for sometime and this year we are trying to add plastics in the form of bars, spinners and bullets to take the place of chrome. Colored plastic in the front can do a lot of visual good with one added ad-

vantage: it is cheaper to replace than chrome. We are eliminating large gaudy bumpers when we can and using the smaller, colored plastic in place of it. It has had good acceptance."

## THE REAR END:

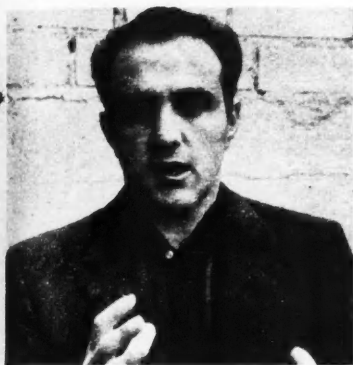
"In the rear end," George continued, "the big news is the fins. They will be a major part of the car and you will see all kinds of experimental versions. We are trying several ideas this year. On one car we are putting two sets of fins, one on top of the other. The bottom fin starts at the headlight and works through the length of the car. The second set begins a little further back but follows the same general contour."

"We are also building "T" fins and "Y" fins. These are rear fins built in those shapes. We are trying to work reflectors and antennas into these fins and we find that we've had good success with our conformity to these designs."

"Taillights fit into the picture because they are becoming more important every year with restyling. You will see them in multiple groupings. Some cars will sport three or four to a side. We'll be using extruded aluminum as added decoration around these clusters of taillights."

"Exhaust fits into this part of the design.

## BARRIS KUSTOM...



There will be more use of the side exhaust stacks, with the pipes coming out the side of the car. There is a move toward more use of multiple tipped exhaust and we plan to use clusters of exhaust tips, four or six to a side. We even have plans for a lot of paired exhaust treatments this year. They all will be variations of the popular 'Lakes' design."

### WHEEL OPENINGS:

There has been a wide range of thought about the future of wheel openings and Barris explained his point of view by saying, "Some shops have been claiming that wheel openings are unimportant this year. We plan to make them an important part of the custom picture. We're making them extreme in many cases. Some will go back, past the wheels to wrap around the rear fender. Others will work up into the rear door. There will be concave sections with extruded metal designs and convex sections with dramatic scoops. Wheel openings are important and we'll use skirts when it suits our designs."

### SCOOPS:

"The same thing goes for scoops," Barris added, "They are not gaining much popularity on their own, but they are finding a place in design. They'll be used as secondary or background designs. For example, we plan to promote the use of antennas as a part of the car's

design and the antennas will be worked into scoops, sunken into the fenders, roof or hood."

### PAINTING:

"There has been a lot of talk about scalloping, but a lot of people forget this: scalloping has two functions. It is of value to the fellow who goes in for conservative restyling. He can create a wilder custom through scalloping. The fellow who does a lot to his car still is interested in pointing up the work that has been done. Scalloping can help. In either case the problem is to create an illusion with paint and that means it has to be subtle. It will mean scalloping on a smaller scale, but it will never mean the end of scalloping."

"In general, the painting is swinging to the translucent colors. There will be new colors this year, mostly solid colors."

### THE NEW CARS:

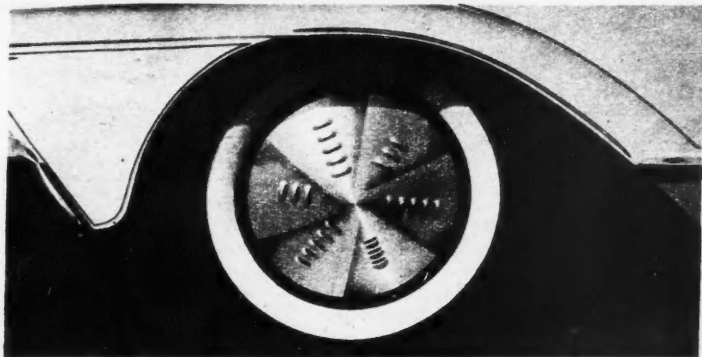
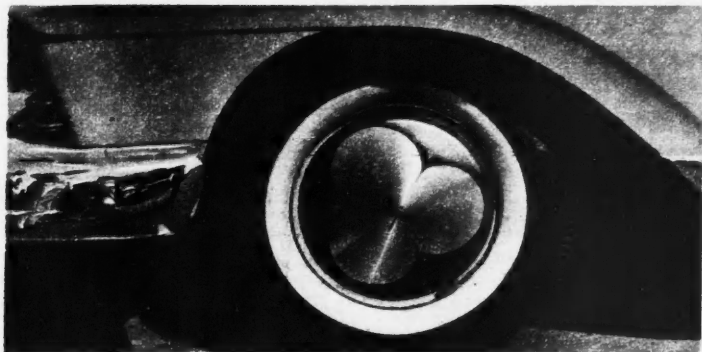
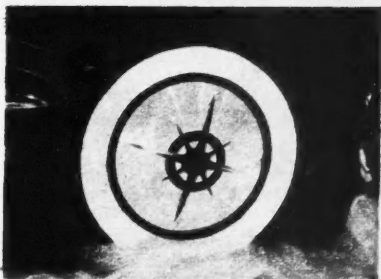
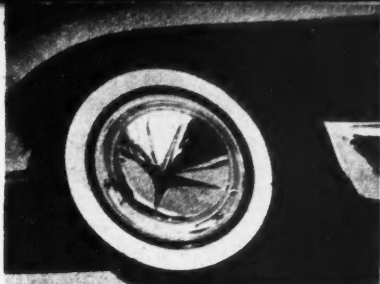
We asked George which new car he felt would be most popular with custom car owners. He replied, "The 1959 Chevy, without a doubt. It lends itself to all kinds of customizing, from mild to radical. In either extreme it is capable of tasteful effects because of its small, well designed body and rear fins. Buick and Olds have much the same potential, but they cost more and, consequently, will find a more restricted market with custom enthusiasts."

## ACCESSORY OF THE MONTH



Universal in application, Kolor Krome  
spray-bombs find their mark with  
easy-to-restyle hubcaps

**O**UR ACCESSORY OF The Month feature offers a bonus this month. Not only are we introducing a versatile new product but also showing how it can be used to decorate hubcaps. This is a trick which is becoming more prominent at the various car shows. The Kolor Krome itself comes in four colors; Pagan Gold, Candy Apple Red, Oriental Blue and Parisian Green. It comes in a 16 oz. aerosol spray can which makes it extremely easy to use and is sufficient to color chrome a multitude of items. As for the hubcaps, the designs and patterns which may be applied are as unlimited as the individual's imagination. Some of the ideas that are being used are shown on this page. There are "star" designs, clover-leaf patterns and one of the latest ideas—applying the paint in varying degrees and shades. If you're handy with a pin-stripping brush you can add an elaborate touch by accenting the design with striping. The Kolor Krome spray bombs are available from: California Custom Accessories, 1807 W. 65th St., Los Angeles 47, California.





## ACCESSORY OF THE MONTH



1. Determine center of hubcap then measure to point where lines will cross each other.



2. Measure across hubcap to insure points of design being equidistant from each other.



3. Tape off outline of design with  $\frac{1}{4}$ -inch masking tape, keeping lines perfectly even.



4. Tape on inside of design pattern is now cut off even with a razor blade or knife.



5. Mask off balance of hubcap with paper then thoroughly clean area to be sprayed.



6. Spray on light coats of Kolor Krome until desired effect is achieved, remove the tape.



Rodders' ingenuity at its  
best is displayed in  
these cars built  
strictly for

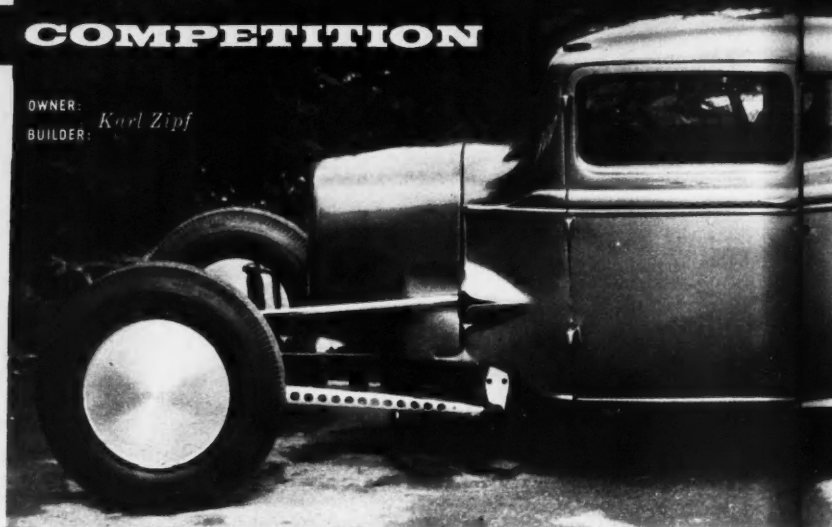
# COMPETITION

MARCH, 1959

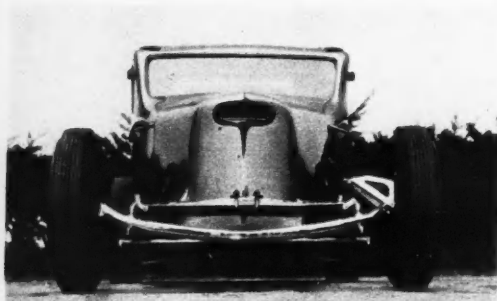
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# COMPETITION

OWNER: *Karl Zipf*  
BUILDER:



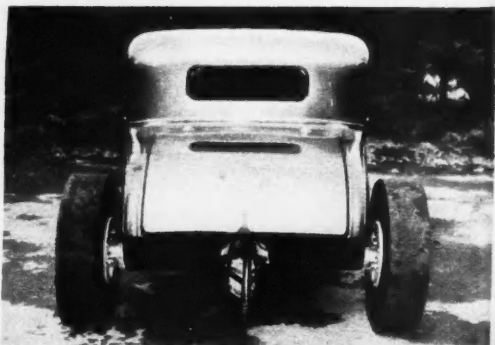
Karl Zipf of San Francisco, California, started with a \$30 Model A Coupe. One year and an unknown amount of dollars later it has been transformed into the "gem" shown here.



One-piece nose and hood section with small handmade grille, and scoops in top are unique twists seen in front view. Chrome tube axle and springs brighten front end. Wheels are '48 Merc.

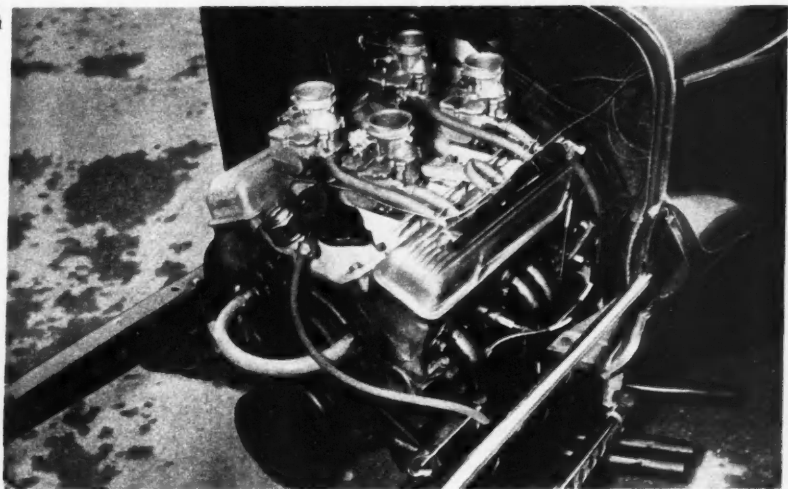
Photos by Frank Faraone

4" chopped top and 5" channel job gives squat appearance to rear. Push-bar encircles Halibrand quick-change mounted in '39 Ford rear end. Bruce slicks are mounted on Chrysler wheels.



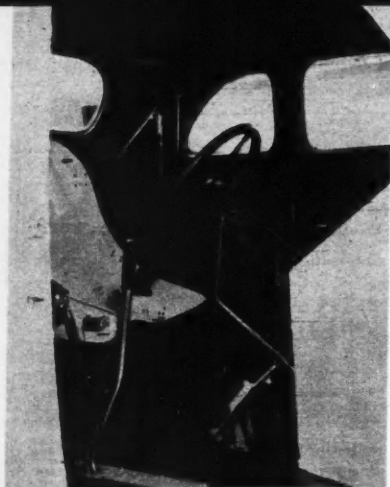


Franklin center steering and a minimum of gauges are evident in Zolotoned interior.



Business-like appearing '57 Chev engine displaces 283 cubic inches. It has an H & C roller cam and J.E. dome pistons. Spark is furnished by a Vertex magneto while gas is issued through four carbs mounted on an Edelbrock six jug manifold. Power runs thru a '39 Ford transmission. Bubble on side panel was built out for the chromed drag link.

# COMPETITION

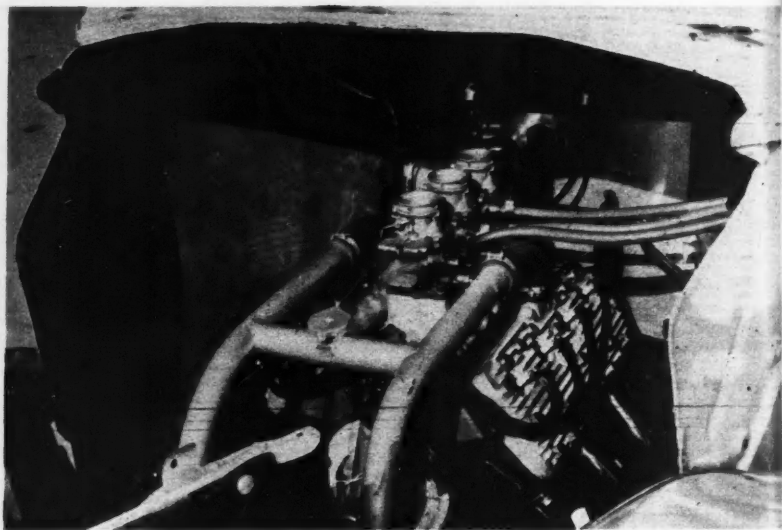


OWNER  
BUILDER

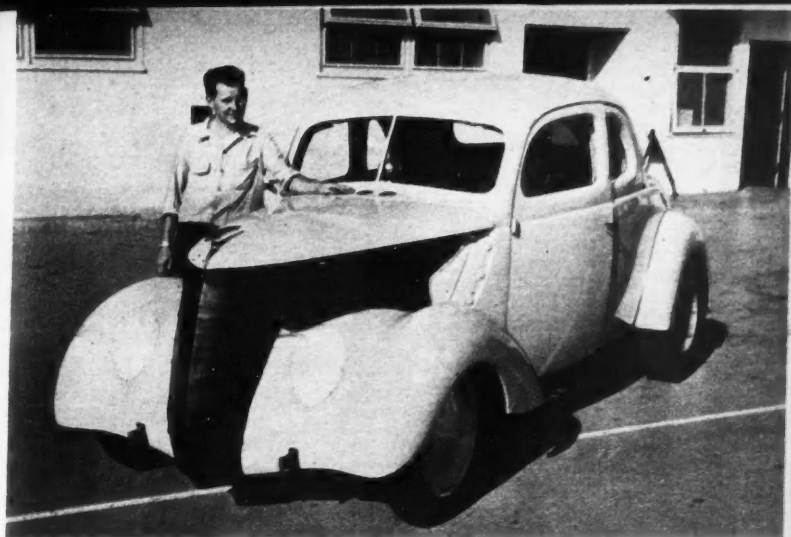
*Bob Goodwin*

Kill switch, fuel shut-off and fire extinguisher are all within easy reach of driver in tidy cockpit. Large gear shift leads to '37 LaSalle box. Center steering is Essex.

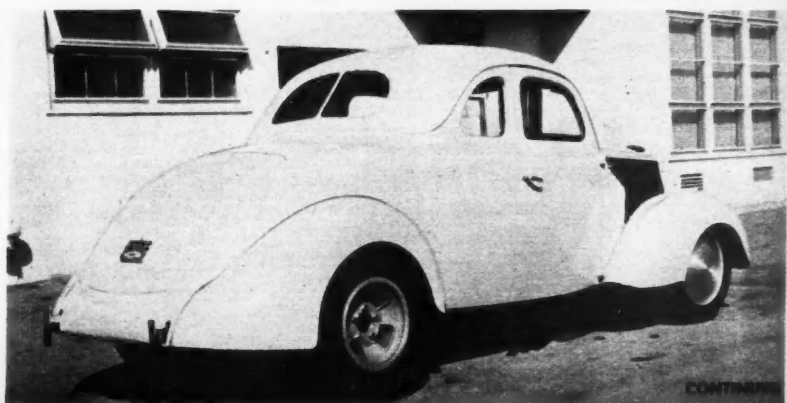
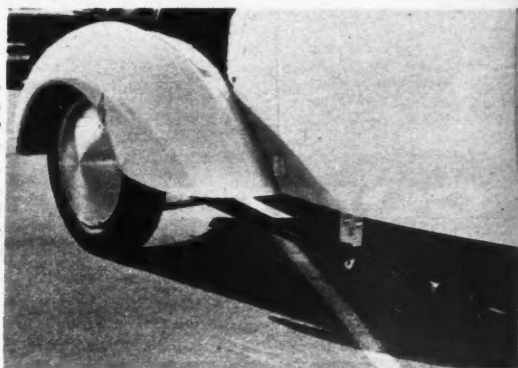
Photos by Frank Faraone



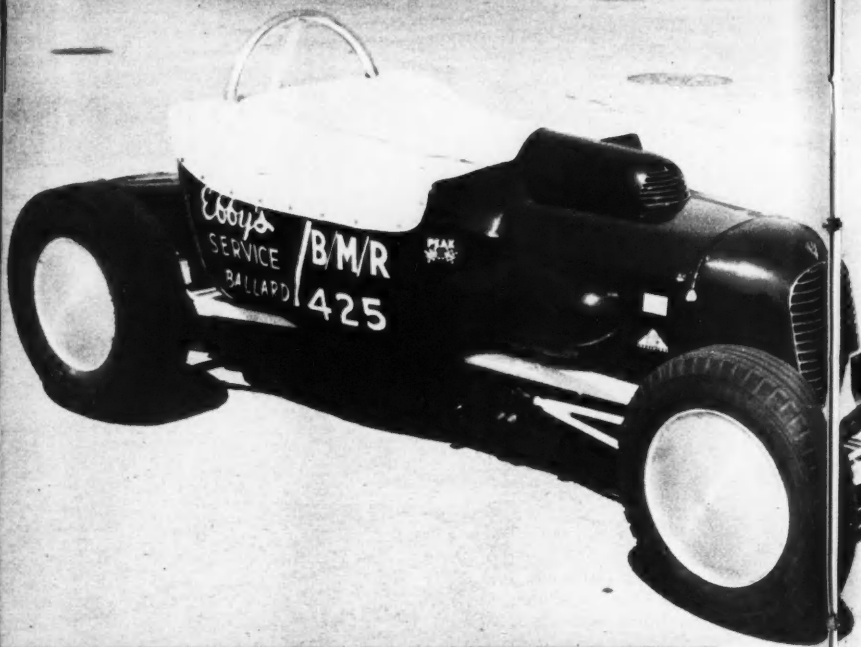
Iskenderian cam, J.E. pistons, Navarro 10:1 heads, Harmon & Collins mag and Navarro manifold running three Stromberg 97 carbs, team up to breathe new life into 252 cubic inch Ford flathead. Direct return water pipes are sufficient to cool the engine during runs.



Bob Goodman of Alameda, California took one year to complete all engine and body work on his Golden Rod Yellow '37 Ford Coupe. Chromed exhausts protrude rearward of anchored split wishbone. Grooved racing tires are used up front while Bruce slicks mounted on Palamides magnesium wheels give driving traction at rear.

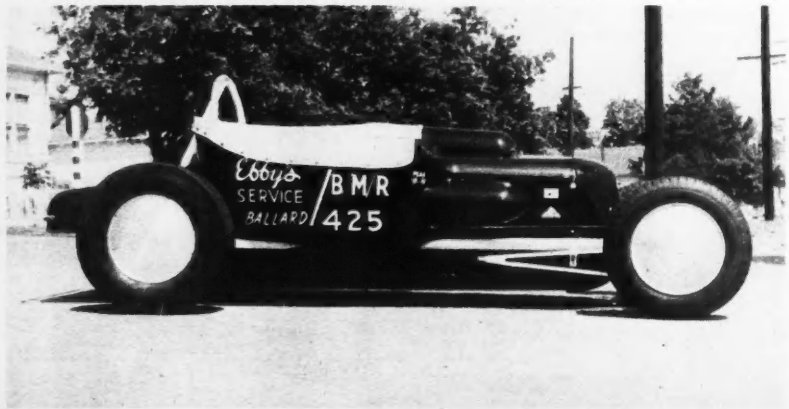


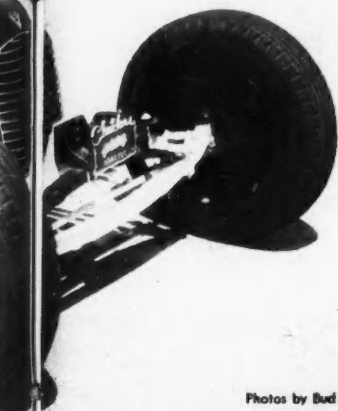
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## COMPETITION

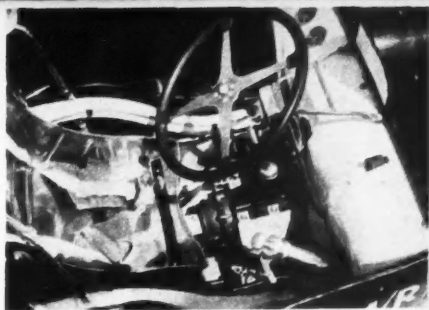
"Mean" looking '25 roadster was converted from a track rod to a dragster by the car's owners, Ed Norton and Armie Marion of Seattle, Washington and Buck Steiber of Olympia, Washington. Roadster is a consistent winner in the Northwest, has turned 134 in the 1/4.



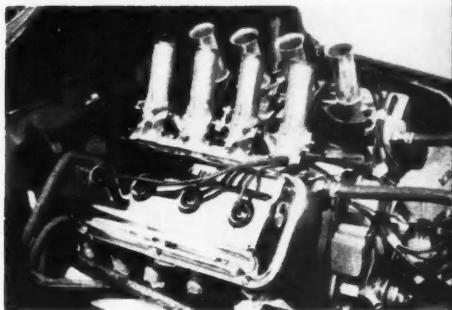


Photos by Bud Leng

OWNER: *Ed Norton &  
Arnie Maron*  
BUILDER: *Owners &  
Ruck Steiber*

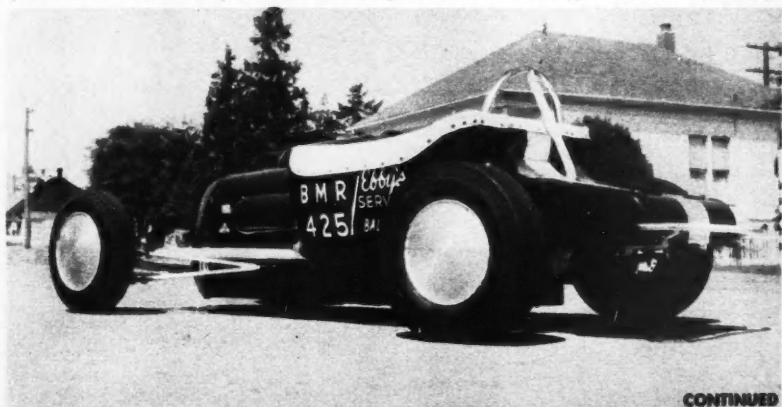


Crowded cockpit of converted track rod has Evans steering & manual pump for fuel pressure.



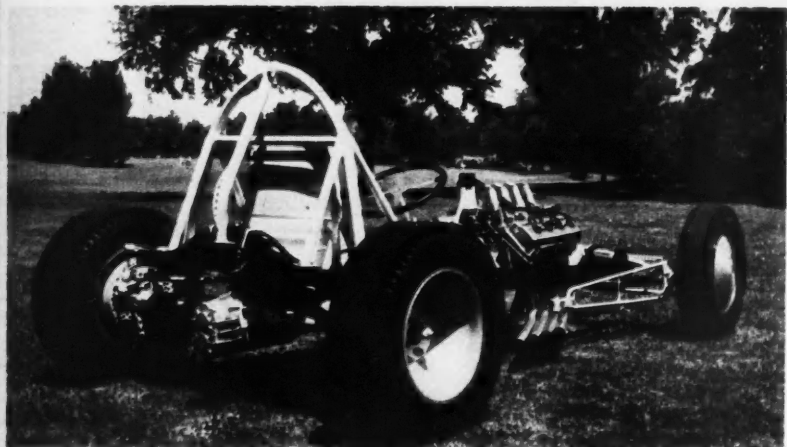
Hilborn fuel injection system feeds potent 290 cubic inch DeSoto. Potvin Eliminator cam, H & C magneto, Forged True pistons lend added pep.

Halibrand quick change rear end receives power through a '39 Ford trans running high gear only. Magnesium wheels with asphalt slicks are used on rear, dirt track tires up front. Immaculate body is connected to rigid frame made of 2½" chrome moly tubing.



CONTINUED





Late model Ford rear end has wide Halibrand quick-change, 3:94 to 1 final drive ratio, Halibrand mag wheels and 7-inch Bruce slicks. Brakes are '48 Lincoln, rear spring is Model "A".

Frank and George Puccinelli have captured numerous class wins and trophies with their immaculate '30 Ford competition roadster. Top speed is 136.36 mph in 11.20 sec. in the quarter.

Photos by George Hill



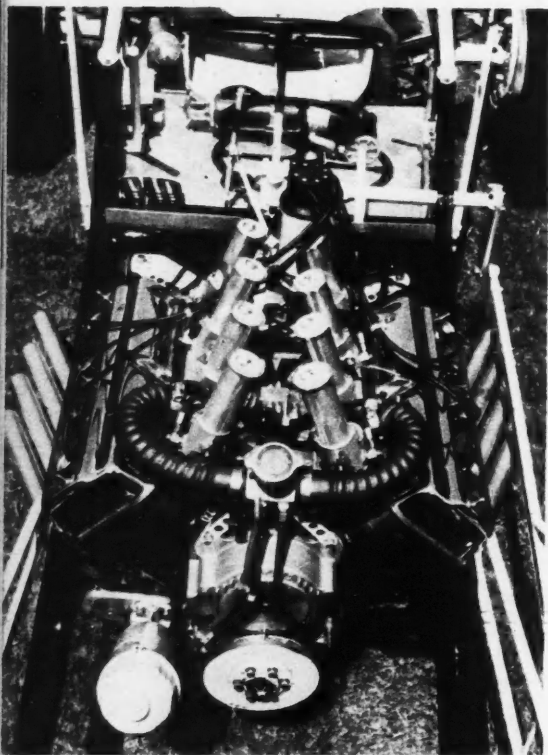
# COMPETITION

OWNER: *Frank & George*  
BUILDER: *Puccinelli*

Steering mechanism is '32 Ford, reworked for center steering; racing wheel is used. Bell housing and clutch are completely enclosed by  $\frac{1}{4}$ -inch steel scatter shield for protection should something explode. Foot pedal has been drilled-out for lightness.

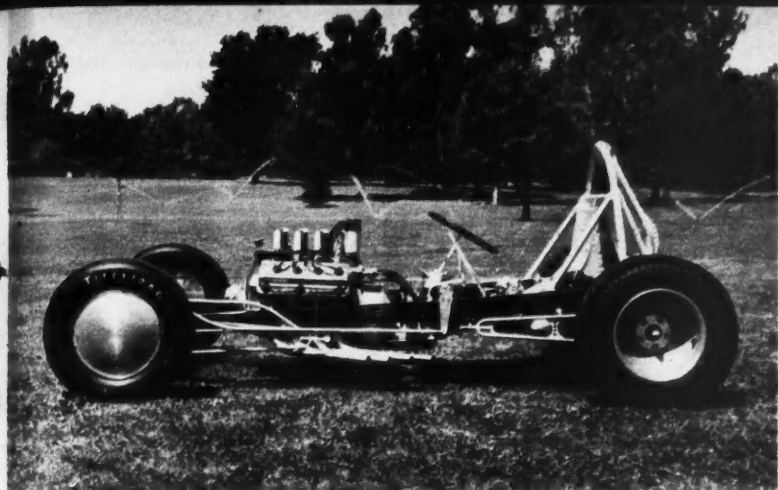


# COMPETITION



'30 Ford body has fiberglass doors, trunk lid, shell, and hood for lightness. Only outer body panels were used on Sierra Gold, yellow beauty. Panels are welded together and braced with tubing. The body is very easily removed, to reveal the...

Nestled snugly between frame is "B" class '52 DeSoto powerplant. DeSoto has stock bore, stroke, pistons and valves; uses Isky cam, Scintilla-Vertex magnet, Hilborn injector with #18 nozzles, and Lodge plugs. The "Tuned" exhausts were built by the Puccinelli Brothers, and each one is exactly 28" in length.

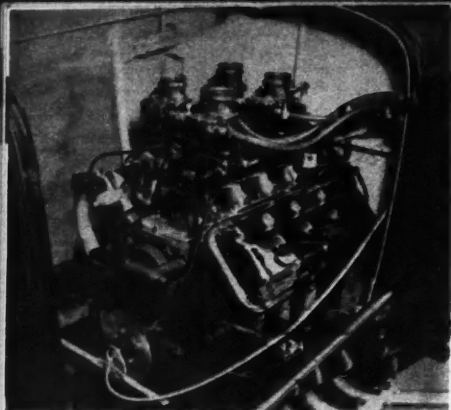


glass ... '30 Ford Model A frame, much drilled for lightness. Frame is boxed with  $\frac{1}{16}$ -inch mild steel; tubing is used for front cross-member, while rear is stock. Roll bar is securely welded to frame, assuring driver good protection. very e...

me is wer- ore, uses mag- #18 The t by each ngth.

Front axle is '38 Ford tubular with '40 Ford spindles and hubs. Spring is shortened '32 Ford. All radius rods on car are fabricated from  $\frac{3}{4}$ -inch seamless tubing. Shocks are handmade friction-type of dural aluminum. The wheels are Ford in origin with 7:10-16 Indy tires mounted.





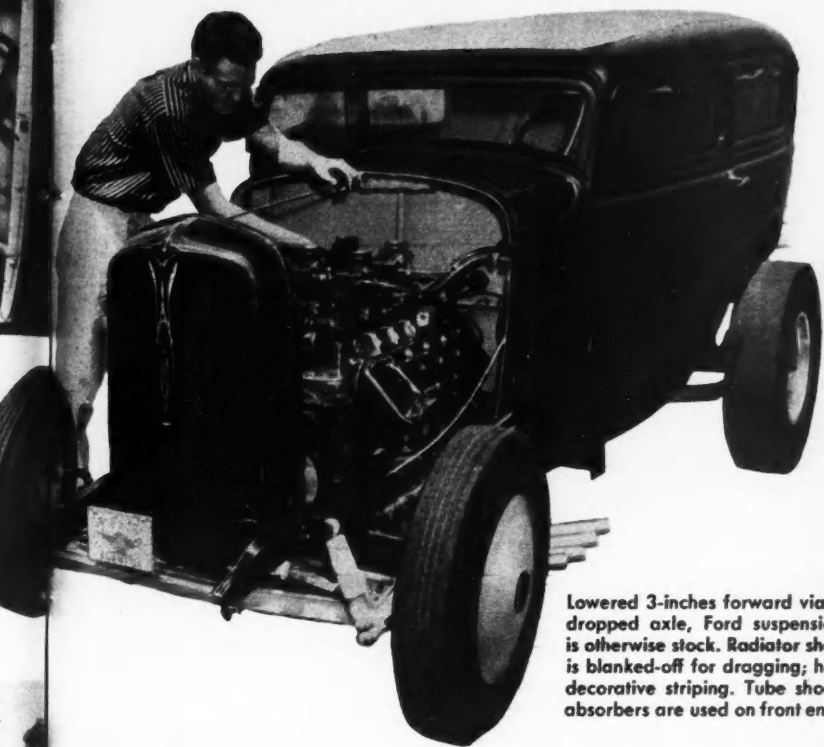
LEFT • '53 DeSoto engine has  $3\frac{7}{8}$  bore, stock stroke and displaces 295 cubic inches. Mill makes use of Herbert cam, tube push rods, Roller-Tappet lifters and Jahns pistons. Four Holley "48" carbs are used and ports are polished and enlarged. RIGHT • Center steering is reworked '32 Ford.

## COMPETITION

OWNER: *Don McBride*  
 BUILDER: *Owner & Earl McBride*

'32 Ford sedan has 5-inch top chop, blue paint with striping. Locked rear end runs 4.56:1 ring and pinion ratio. Ford drags on 15" mag wheels.

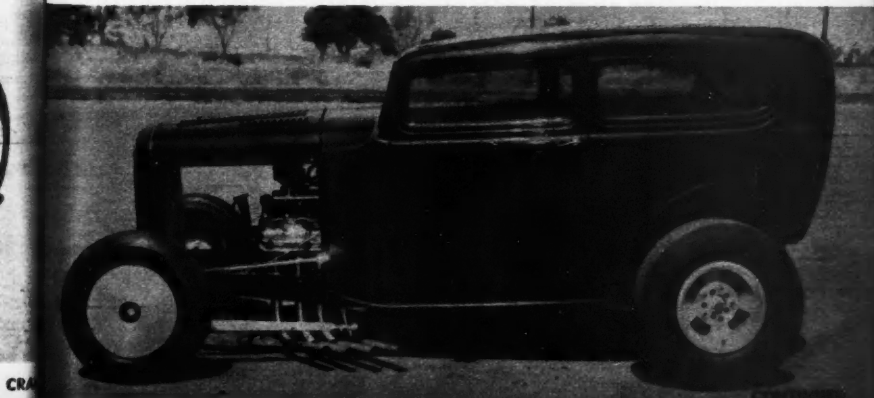


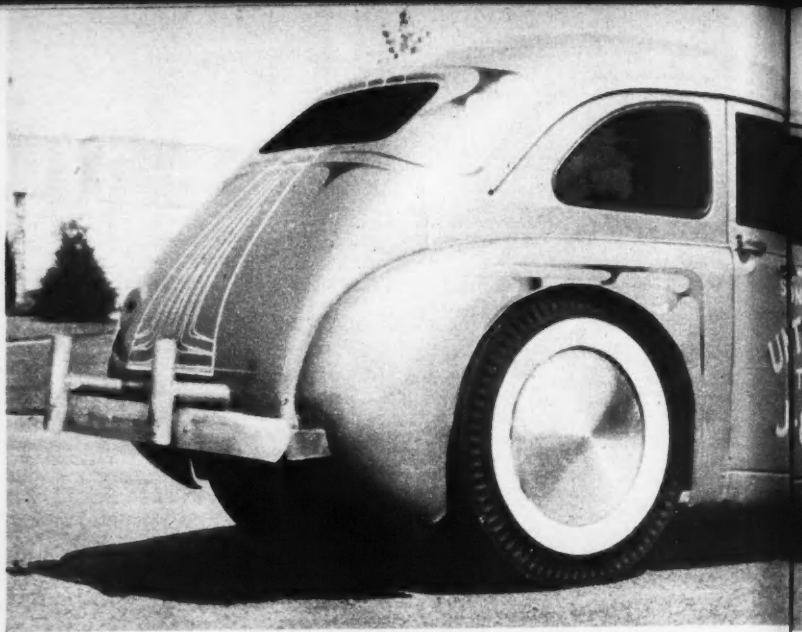


Lowered 3-inches forward via a dropped axle, Ford suspension is otherwise stock. Radiator shell is blanked-off for dragging; has decorative striping. Tube shock absorbers are used on front end.

Photos by Frank Faraone

Empty expanse at front of engine compartment illustrates moving of mill 25% farther back to concentrate more weight on rear wheels. Driver sits in former rear seat area.





## COMPETITION

OWNER: Vern Rogers  
BUILDER: Vern Rogers

Photos by Bud Long



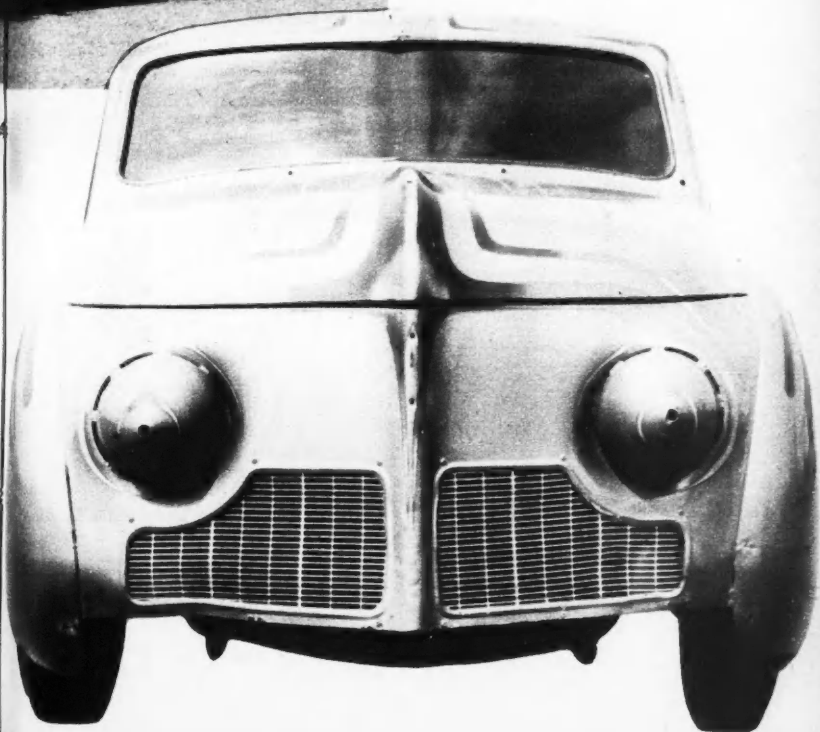


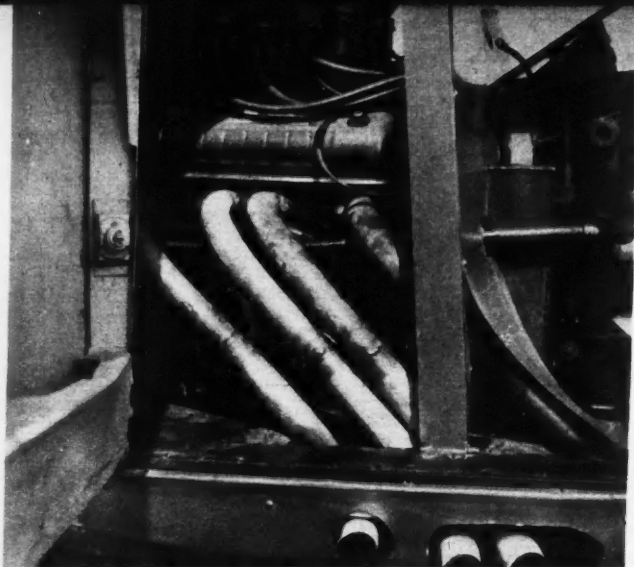


Cute sedan has '47 Crosley body, modified for draggin' with full wheel cut-outs, push bars at rear, exits for exhaust pipes. Moon spun aluminum discs are run on Ford trailer front wheels, stock 15" Ford rear wheels.

Tubular frame has 80" wheelbase, sectioned '47 Ford front axle, '55 Ford rear axle with locked rear end; ring/pinion ratio is 4.11:1. Leaf springs forward, solid rear suspension is used on Vern Rogers' Crosley.

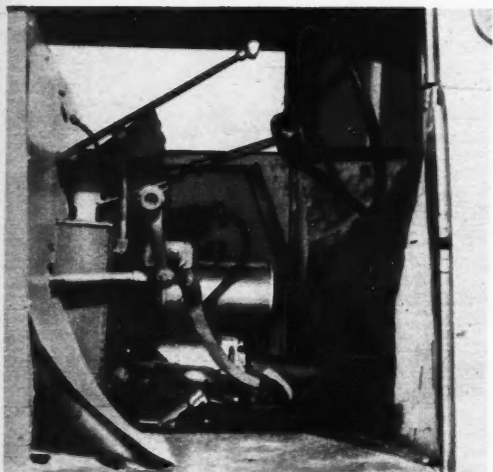
Weird looking front end is stock Crosley with bumpers removed and headlight housings mounted backwards to help cut wind resistance. Scallop adds to the gold body.





292 cubic inch '55 Ford engine runs stock bore and stroke, Isky cam, rocker arms, and lifters and four Stromberg 97 carburetors on a homemade manifold. '48 Cad trans used.

## COMPETITION

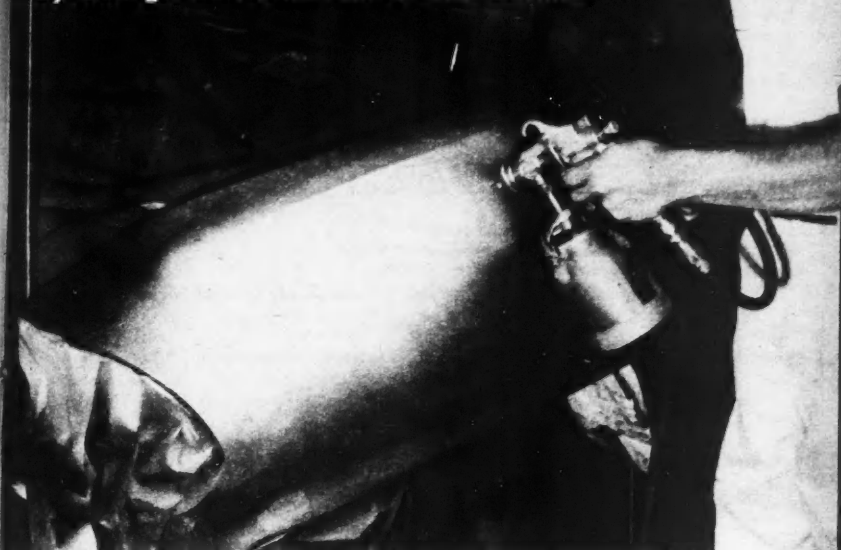


Using Ford pickup bell housing for adaptor, '55 Ford mill drives rear wheels through 11" clutch fitted to '48 Cad transmission which has Ford tailshaft housing welded directly to rear of the transmission. Flywheel remains stock weight; owner did work.

# "SECRETS OF CANDY COLORS"

## Part II — Surface Preparation and Application

By George Barris as told to Bob Behme



### HOW TO PAINT

Application of the translucent "Candy Colors" involves standard painting procedures with special techniques devised for these mixtures. When spraying the color coat over the underbase (and sealer) remember that the final color is dictated by the color of the toner—you can do nothing about that except to strengthen or weaken the amount of toner or add other tones to the original mixture—but the depth is achieved by the number of coats you apply. You are the final judge of how many coats of color are enough.

THE COLOR, WHEN WET, WILL HAVE THE SAME APPROXIMATE APPEARANCE AS IT WILL AFTER IT IS RUBBED OUT. When you see the depth of tone on the car, that you want, stop. It will dry to that shade, depth and tone.

Painting is a standardized art. To obtain professional results always follow directions—always perform the work in the same way. Below is a schedule of steps which, if followed, will yield quality professional results.

# "SECRETS OF CANDY COLORS"

- (1) Mask the auto.
- (2) De-wax and de-grease—use a special solution—remove all *wax* and grease. If car has been waxed with silicones, use a special silicone cleaner.
- (3) Sand the entire surface of the car with 320 wet sandpaper.
- (4) Prime the entire car. Use a primer-surfacer over the entire car.
- (5) Sand the primer-surfacer with 400 grit wet sandpaper.
- (6) Clean the car again with de-wax and de-grease solutions.
- (7) Spray the car with "make-ready" primer sealer of the color which matches the underbase color.
- (8) Allow this to dry one hour.
- (9) Spray on the underbase. Cover the car completely. Once applied do not touch the underbase with hands... fingers will create dark marks on the surface.



To keep paint and over-spray off wheels simply cover them with an old section of cloth as shown here. Special technique for painting wheel rim can be found in text.

(10) Apply one coat of clear sealer. (Acme "Bond-Tight").

(11) Apply the color coats. Use high air pressures (approximately 50-60 pounds) adding coats until you reach the proper color saturation. Avoid over spray. Allow 8 hours to dry.

(12) Sand with water and 600 grit wet sandpaper.

(13) Apply 1 or 2 more coats of color mixed 250% with a good, slow drying thinner.

(14) Allow surface to dry two weeks, then color sand, rub with a good rubbing compound, and polish.

## PAINTING TIPS

Masking is necessary to protect windows and chrome against unwanted paint. The alternative is to remove everything you do not wish to paint. In some cases, headlight rims, etc., it is possible to remove chrome, but in general all cars will require masking.

Masking may be accomplished in two ways: (1) with professional masking paper which has a thick-backed paper tape applied along one edge, or, (2) with old newspaper and paper-backed "masking tape." Different areas of the car require different masking techniques.

Wheels: require about 4½ feet of paper. Apply one edge of the paper to the outer



Masking is necessary to protect windows and chrome against unwanted paint. The alternative is to remove everything you do not wish to paint. Items like side trim, headlight/taillight rims and the bumpers.

edge of the wheel rim. Do not fold the paper into the wheel, but funnel it out as you tape the paper to the wheel. When the paper is mounted to the outer wheel rim, you can spray inside the funnel. The paper will prevent spray from touching the tires.

Front grille: start with either the left or right side. Do not use irregular shapes of masking paper. Keep newspaper edges straight. Mask the top section of the grille first. Work along the contour of the grille, masking half at one time. Bring the paper down, and complete the bottom of one half of the grille. Do the other half in the similar manner, overlapping paper in the center.

Windows: start in the upper right hand corner. Bring the paper straight down and across the bottom of the window. Use a second piece of paper at the bottom of the windshield, carrying it up across the face of the first paper. Continue across the window in this fashion. Overlap paper covering sufficiently to prevent overspray.

Headlights: you can remove the outer chrome headlight rim or you can spray with the rim on. If you use prepared masking papers use either 6 or 9 inch widths for spraying headlights. If you use newspapers, fold them to this size. Starting at the bottom



The door jams, hood and deck lid edges are sprayed after outside of car is painted. Mask surrounding areas for each operation.

of the outer edge, tape the paper around the headlight or headlight rim, until you have completed a circle. Crush the extended paper in, toward the headlight, so that it lies flat, covering the bulb. Take two short strips of  $\frac{1}{2}$  inch tape and criss-cross them over the paper to secure the edges.

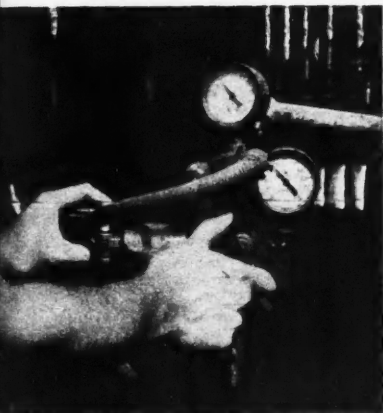
Chrome trim: do not use paper to mask the thin chrome strips on the sides and rear of car. Tape, of the exact width will produce a better edge. (You can remove chrome strips if you wish). Apply the tape to the contours, edges and face of the strip, leading the tape with the right hand and adjusting its track with the left.

#### PREPARATION:

Sanding: the use of water, whether you use a power sander or the hand method, is essential. Water eliminates dust, leaves a smoother finish, and makes the sandpaper last longer. For lacquer paints you'll need several sheets of 320, 400 and 600 grit wet sandpaper.

Do not dry sand, dry sanding leaves dust, tends to clog the sandpaper and gouge the delicate surface. The use of solvents, in place of water, is hard on the hands and often hard on the paints. Gasoline is not only dangerous but the worst possible choice. It leaves a oily surface over the car: paint will not stick.

Remember that scratches do not come in a can of primer or paint. Scratches are put



When spraying on color coats a high air pressure is recommended (approximately 50-60 pounds). Paint must be applied very wet. High pressures minimize over-spray.



## "SECRETS OF CANDY COLORS"

in the surface by worn, clogged sandpaper, coarse sandpaper or by poor sanding methods. Use the proper grits of paper and sand by holding the paper edge with the thumb and finger, applying pressure with the palm of the hand, not with the fingers.

**Primer-surfacer:** a primer surfacer is an undercoat designed to grip the surface—that is to provide adhesion for the paints which are applied to it, and to fill in minor surface imperfections.

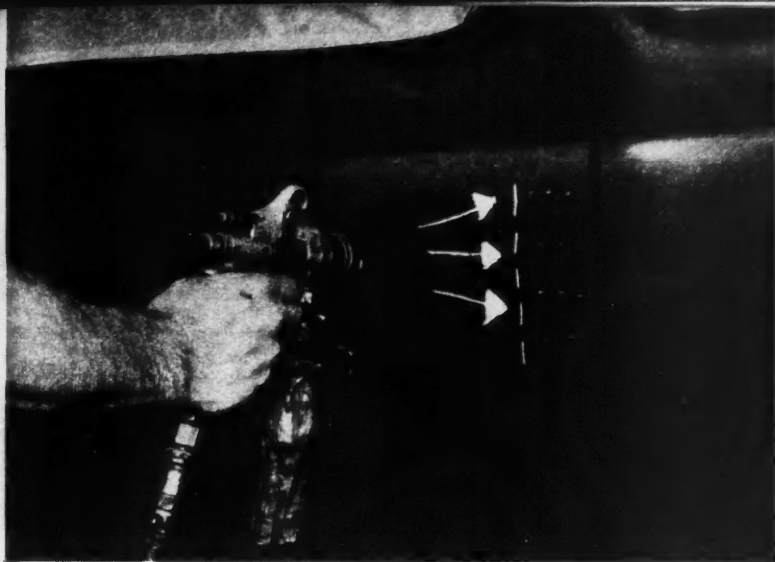
Several manufacturers produce primer-surfacers. Do not confuse these with "Primers." A primer is an undercoat designed solely to provide adhesion. It is generally used over bare metal, although it can be used over old finishes, and is applied in a thin film. **PRIMERS DO NOT FILL IN IMPERFECTIONS AND ARE NOT DESIGNED FOR SANDING.**

**Note:** after most primer-surfacers have been applied they will "flash." As you spray the primer-surfacer onto the car you will

notice it stays wet for a few seconds—then quickly dries, becomes dull. This is called flashing—indicating that the solvents in the mixture are evaporating. This does not mean the coating is dry.

Surfacers should be handled only after they are dry. This will take at least one hour. Green, or tacky surfacers cannot be sanded. Sanding a green surfacer will cause the surface to roll up. It will sand hard and stay rough even after repeated sanding.

**Spraying:** color coats should be applied within 1 or 2 hours after the application of the "Bond-tight" over the metallic underbase. To prepare the solutions for painting, thin with 100 to 150% thinner (Du Pont, Nason, R & M or Ditzler). The color coat should be applied wet so it can flow evenly. Use the gun close to the car, about 7 to 12 inches, and keep the spray pattern wide. It is important to cross spray after covering an area but in all cases avoid over spray—it can cause a darker area of color. Remember:



**ABOVE LEFT.** Use the spray gun close to the car. Hold it approximately seven to twelve inches away from the surface. Maintain a wide spray pattern, applying color evenly.

**ABOVE RIGHT.** One of the most delicate spots of painting operation are the edges of any panel. Do not continue painting over onto adjoining panel; gradually discontinue spray as you approach edge (arrows). This eliminates overlapping which creates dark areas.

**THE NUMBER OF COATS OF COLOR DICTATES THE TONE AND DEPTH OF THE PAINT.** Keep these layers of paint even.

Barris has devised a system which produces the best results. He paints the outside portions of the car first, painting the hidden areas later.

"Paint the body first," Barris says, "and keep doors, hood, deck lid closed during this operation. Do not touch them. Later you can mask the body (to prevent over spray) and spray these areas."

During painting, George works around the car in a definite pattern. He covers the car a panel at a time, spraying first on a horizontal plane, then criss crossing or cross spraying to even the color. If a car is painted this way, one complete coverage will equal 4 coats of paint.

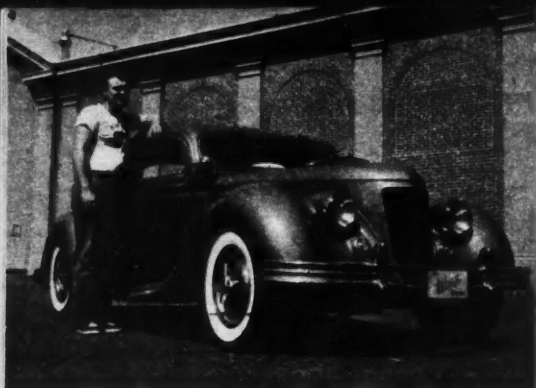
Large, flat panels, such as doors and fenders, may spell trouble because of the difficulty encountered in applying an even layer of paint without over spray on adjoin-

ing panels. To avoid over spray, Barris begins his spray pass about two inches from the other end of the panel. This thins out the spray on each end. The new spray pass from the adjoining panel provide just enough over spray to make this "intermediate" zone equal in tone.

"When you end a spray pass," Barris adds, "move the gun away from the car in an outward arc before stopping the gun. This will equalize the spray pattern at the end of the swing."

This is all there is to painting your car with the new transluents. The job is not as difficult as it may sound if you will remember one thing; the final painting will be only as good as the care you take in preparing and applying the color and underbases. If you take your time, use professional equipment, and follow directions when you finish color sanding and rubbing and polishing your car, the final result will be custom painting at its best.





Hank Fournier, Warwick, R.I., did all work on his '36 Ford five-window coupe at his own body shop. The top is chopped 3-inches, body is sectioned 6-inches and channeled an additional 6-inches. Exterior color of '36 is purple, and is carried out in enamel. Hood has a scoop.

# COUPE de GRÂCE



'51 Olds mill, displacing 303 cubic inches powers 5-window through Ford clutch, '40 Ford trans with Zephyr gears. **BELOW** • Ford has modernized interior featuring pleat and roll upholstery and handmade dash.

All seams are hammer-welded; rear has '41 Packard lights, "conny" kit, and modified Plymouth bumpers. Note lack of chrome.

CAR CRAFT

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Grille bars were taken from a '36 Chevrolet and nestled inside stock shell with chrome trim. '40 Chevy headlights are frenched into fenders. Bumper is Ford/Plymouth combo.

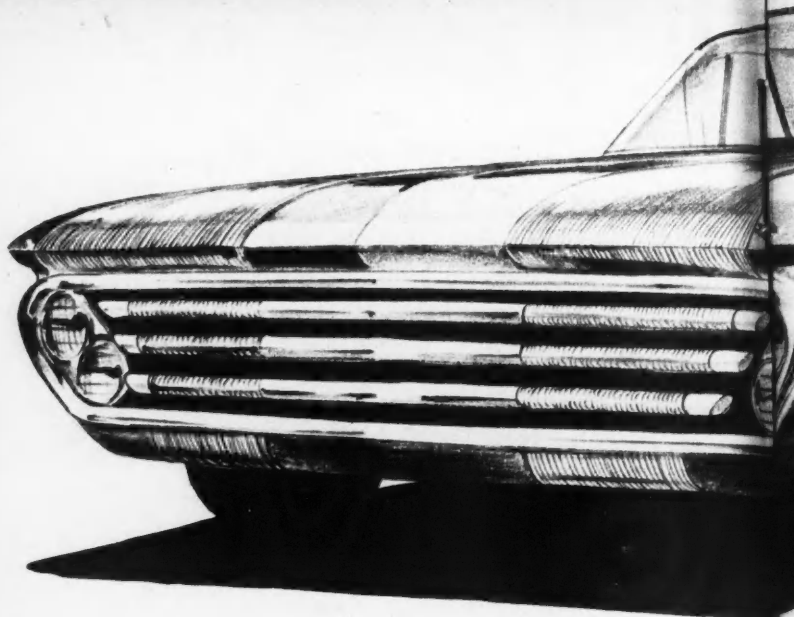


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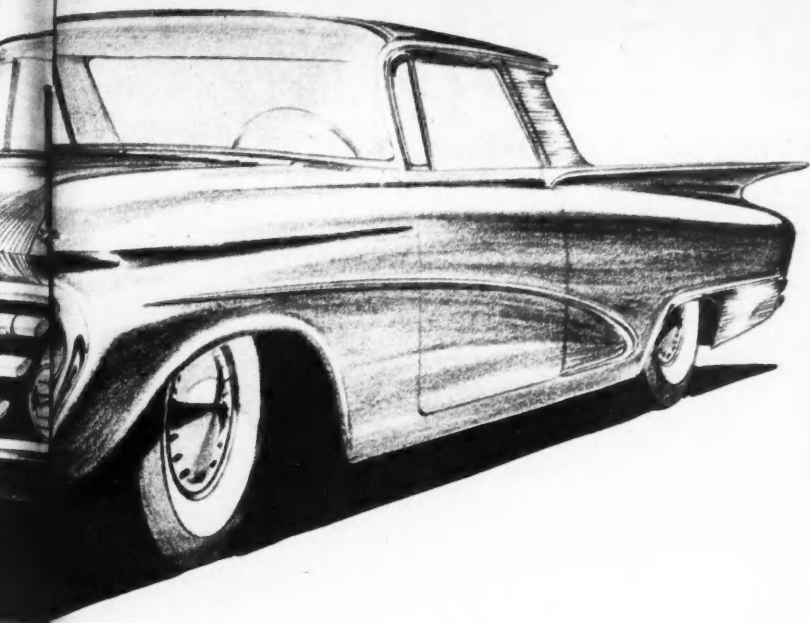
MARCH, 1959

57



## WINFIELD CUSTOM SHOP RESTYLES





# the '59 El Camino

**T**OUTED BY CUSTOMIZERS everywhere as "the pickup of the year" is Chevrolet's beautifully sculptured "El Camino." Due to the tremendous popularity received by Ford's "Ranchero" last year—predictions have it that many enthusiasts will swing to the "Camino class" for functional customizing. Pickup popularity reached an all time high last year and now that the "Camino" has joined the hauler family—we can expect another surge of new pickup interest.

This month, we asked our guest customizer, Gene Winfield, to present his views on the new Chevy pickup. Winfield collaborated with northern California automobile stylist Bart Bartoni to produce a sleek version of Detroit's wildest pickup.

## BODY MODIFICATIONS

The body received minor metal treatment, consisting

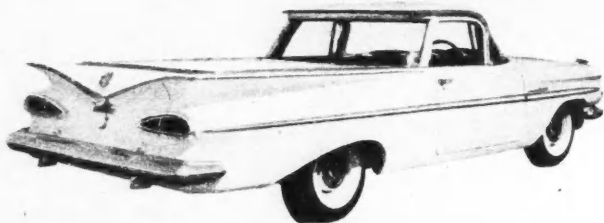
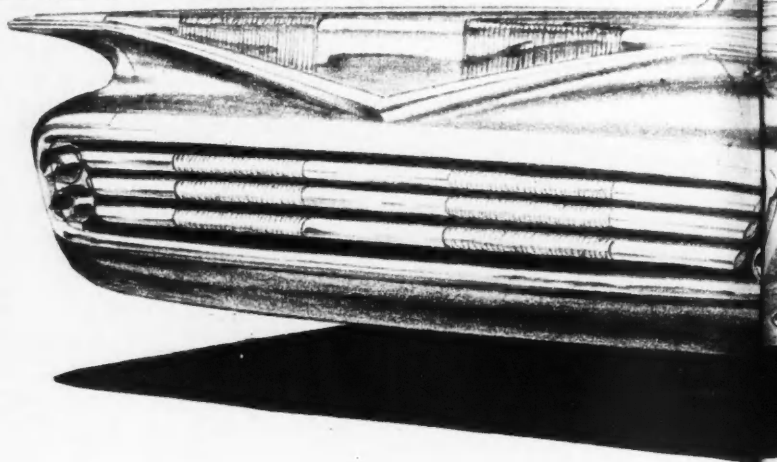
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Gene Winfield

# RESTYLING

## THE EL CAMINO



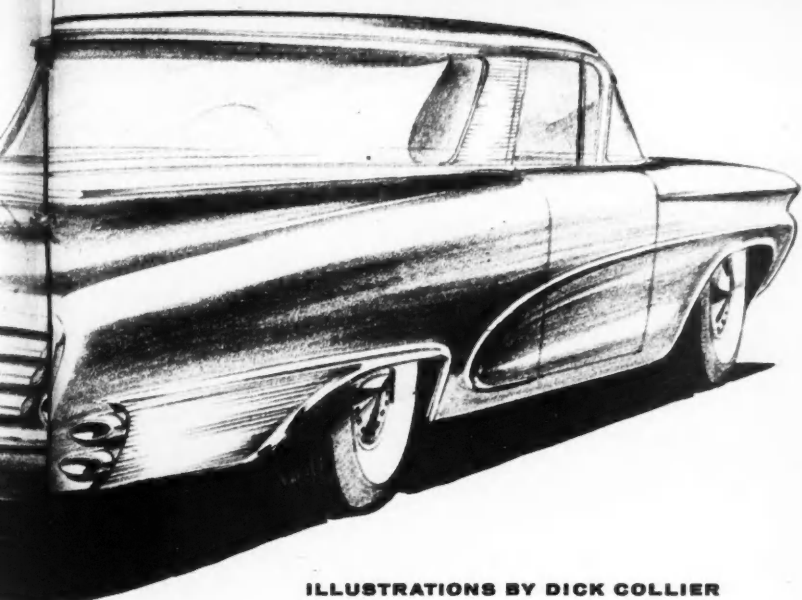
of removing chrome items which Winfield and Bartoni deemed unnecessary for the over-all design of the El Camino. The side trim was discarded and replaced with more distinctive trim from a '59 Pontiac. Rear wheel openings were modified by adapting '59 Ford rear wheel chrome trim to the openings, with roll aluminum paneling as a trailing edge, allowing exit of dual exhaust tips on each side. The area aft of the opening was filled with ribbed aluminum sheet.

A surprising twist to the custom trait of removing trim, was the adding of satin finished ribbed aluminum sheet panels to the hood, sides of cab, grille bars, front and rear

panels, and tarp. This was carried out in a "striped" pattern, with two equal strips running the length of the pickup. The cab design was completely changed by the addition of the ribbed aluminum sections cut in a swept back form, lending a streamlined effect to the El Camino.

### FRONTAL CHANGES

The front end was completely reworked to accommodate a grille composed of three tubular bars, and canted quad headlights. The grille and quadlights are framed by a large diameter chrome tube which surrounds the radically enlarged cavity. The hood air vents were covered by the addition of the ribbed aluminum



ILLUSTRATIONS BY DICK COLLIER

um sheets. The ends of the front body pan had to be molded to the fenders to retain smooth design of the frontal section.

#### REAR ASPECT

Cashing in on the latest fad, the rear body section was enhanced by the construction of a rear grille which is a replica of the custom grille used up front. Replacing the stock in lights on the Chevy are quad taillights from a '58 Dodge, mounted in a canted position which duplicates front end disguise. The on of lower body pan was reworked to comply with the grille design.

An aluminum tarp was constructed to cover the bed of the pickup. Not only does it feature the ribbed aluminum strips, but it also covers the tail-gate section where the corners dip in the center. The aluminum strips are carried over the tail gate.

#### DETAIL

An electric solenoid system was employed to perform the chore of opening the doors

following the removal of the handles.

Because of the large amount of aluminum trim which is used to enhance, rather than hide the design of the El Camino, the designers felt that a solid color would best suit the pickup's appearance. Black enamel is their bid.

#### PARTS AND PRICE LIST

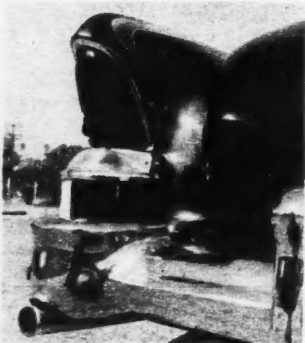
	Labor	Parts
Mold hood and front fenders	\$ 34.00	
Mold front pan	85.00	
Make nerfs, grille bars, slant lights	260.00	18.50
Install aluminum on hood, grille, pan	20.00	17.00
Mount side trim	10.00	26.00
Mount aluminum on top and doors	22.00	7.00
Modify rear wheel openings	20.00	14.50
Mold door handles and side trim	28.50	
Make rear grille	218.50	16.00
Modify rear body pan	52.00	
Mount aluminum on tarp		16.00
Install electric solenoid system	35.00	19.00
Paint (enamel)	80.00	
	845.00	134.00
	134.00	
TOTAL	\$999.00	



Before moving to Bell, California, Dick Schneider was a member of the Pharoahs, Toledo, Ohio. After buying Merc in semi-completed form, he decided to add a few of his own ideas.

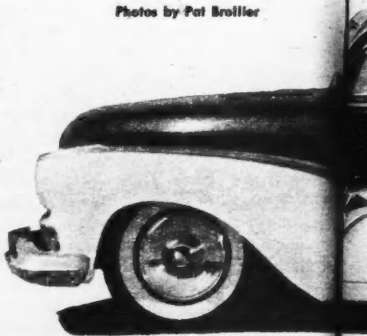
*Crossbred with Plymouth,  
Ford and Lincoln, Dick  
Schneider's custom Hybrid is*

# NOT

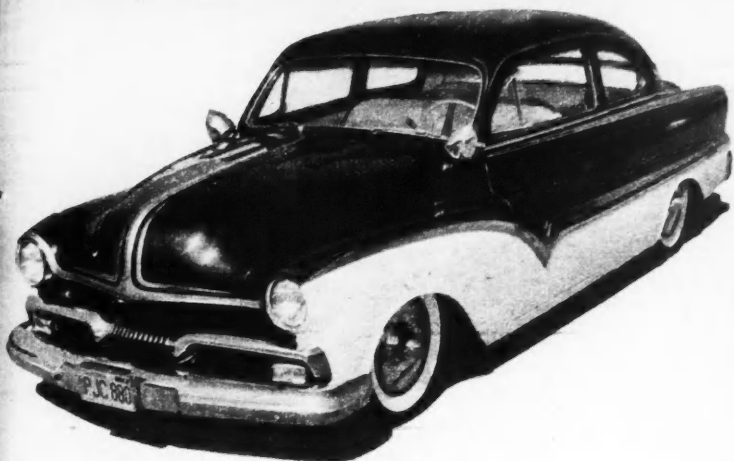


Taillights are complete units from '55 Lincoln set into '51 Mercury fenders; notice that Merc bumper is notched for exhausts.

Photos by Pat Brollier





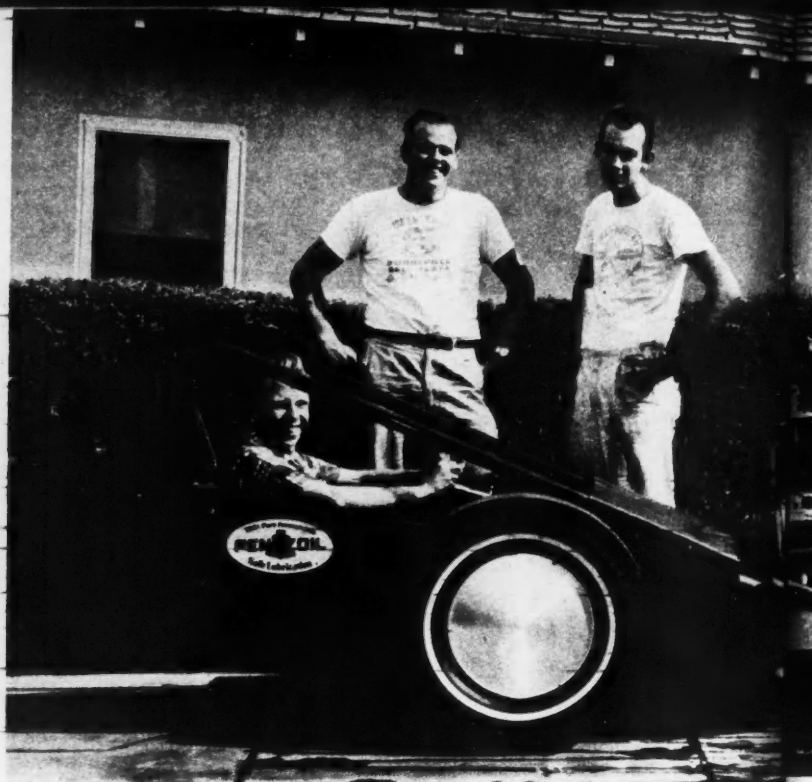


'52 Merc ring was used for french job on lights; '55 Plymouth grille has center section color chrome. Subtle additions such as the rows of louvers on the hood and the dual spotlights lend further custom appearance. Notice that 2-part windshield glass has been "V-butted".

# JUST A MERC

'55 Ford trim separates Titian Red and white lacquer paint job; reworked fender openings have flared lip and carry design.





# ENGINE

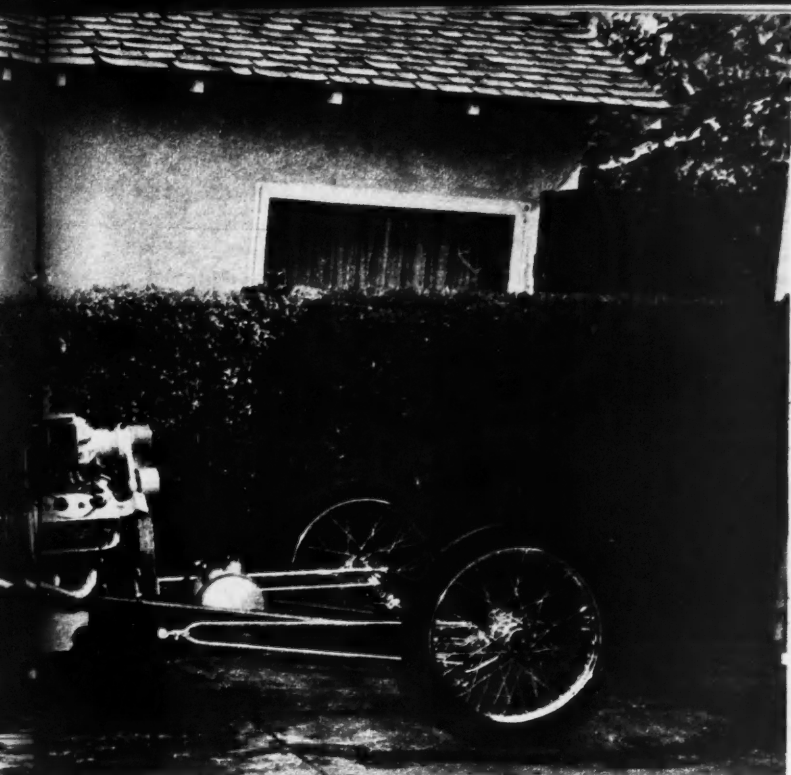
## *What does it take to crank on 159*

Text and Photos by Don Francisco

THEY WERE TRYING for one-sixty on the LADS drag strip at Long Beach, California, when the engine soured. They had already made two runs at 159.01 mph, which was a new record for gas-class dragsters and an achievement that added \$750 to their treasury, but things were going so well that they thought they could boost the record to the nice round number of 160. In their eagerness they didn't give the engine time enough between runs to cool and finally the engine and the oil in its crankcase became so hot that the bearing inserts spun in two of its

connecting rods. That put an end to the day's running.

The group, and it is a group, to whom I have referred as "they" consists of five eager and talented hot rodders. They are Mel and Don Scoville, who are brothers, Jim Hill, Don Koper, and Tommy Ivo. The first four on the list own and take care of the engine in the record-breaking car and Tommy Ivo owns the chassis and does the driving. Tommy's dragster chassis was described in last month's *Car Craft*. As the record book shows, these boys make a potent racing team.



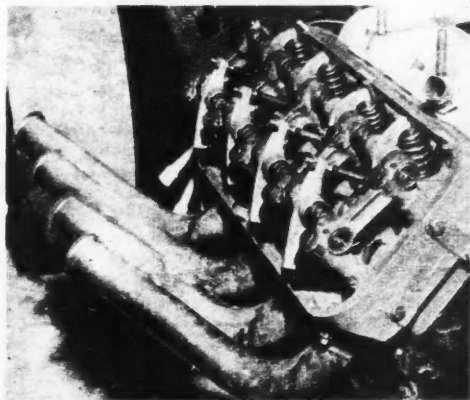
# ANALYSIS

59 MPH-on gas?

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adjusting screws fitted to stock Chrysler rocker arms provide a simple, effective means of adjusting valve lash without appreciably increasing the weight of the arms. Special tubular pushrods add stiffness to the valve actuating mechanism, which is required for high engine speeds. Individual exhaust stacks improve the engine's breathing.

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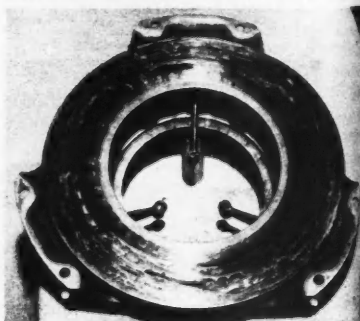
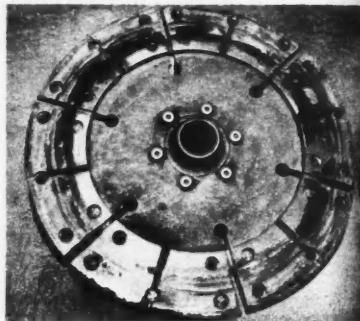
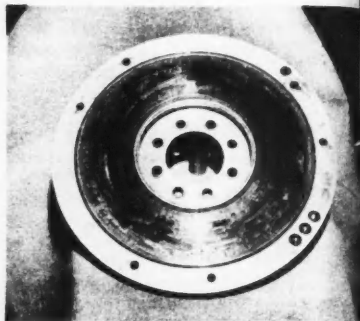
# ENGINE ANALYSIS

The engine in the car is a 1957 hemispherical combustion chamber Chrysler fitted with a 4-71 GMC blower. It has its stock bore, stroke, and 392 cubic inch displacement.

Mel Scoville works at C-T Automotive in North Hollywood, Calif., where he did most of the engine reworking. While watching Mel assemble the engine I got the impression that it is only mildly reworked. This impression was based on the fact that the engine is neither bored nor stroked but it is far from true because practically every one of the engine's parts has been reworked in some way or another.

With the exception of honing its cylinders .002-inch oversize to provide additional clearance for the pistons, the purpose of the modifications made to the engine's cylinder block was to enable the engine to stay together rather than to help it develop greater torque and power outputs. To help the head gaskets do their job, a circular groove approximately  $\frac{1}{2}$ -inch larger in diameter than the cylinders was cut around each cylinder. Each groove is .020-inch wide and .020-inch deep. A ring made from a single strand of .040-inch diameter copper wire was then tapped into each groove. Because the diameter of the wire is greater than the depth of the grooves, the rings extend a few thousandths of an inch above the top of the block. When the head gaskets and cylinder heads are installed on the block the rings form areas of high unit pressure between the gaskets and the heads and block that help the gaskets hold the high combustion pressures created in the cylinders. This modification is very popular now on all-out competition engines.

Another modification to the block was the installation of steel reinforcing straps on its front four main bearing caps. It isn't unusual for these caps to break when they are subjected to the pressure in a blown engine. The cap for the rear bearing was used in its stock form because it has adequate strength for the job. The straps were made from mild steel and they are  $4\frac{1}{2}$  inches long, 1-inch wide, and  $1\frac{1}{4}$  inches high. To provide a full contact area for the straps, the surface of the caps on which they seat was machined flat. Holes were drilled in the ends of the straps to match the capscrew holes in the caps and then the holes in the straps were counter-



From top to bottom are Schiefer-Albro aluminum flywheel, Velvetouch clutch drive disc and 11-inch C-T pressure plate assembly that have given excellent service in the car. Although worn, these parts still perform perfectly for gruelling high-gear start-

ered for the heads of Allen bolts that are used in place of stock capscrews to secure the straps and caps to the block. The Allen bolts are torqued to factory specifications for standard capscrews. The lower corners of the strap on the front main bearing were rounded to reduce interference with the engine's pan so it was still necessary to heat the pan in the interference areas and tap small bumps into its surface with a ball peen hammer so it wouldn't touch the strap.

When the engine was first assembled, the main bearing journals and crankpins on its crankshaft were ground by Joe Armstrong, who does all the crankshaft grinding for T Automotive, to provide .003-inch clearance with standard bearing inserts. When the inserts spun in the rods they chewed up two of the crankpins but the crank was salvaged by regrinding all the pins to a diameter that provides .003-inch clearance for .010-inch undersize inserts.

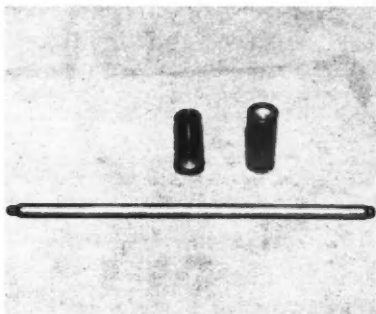
The only logical reason Mel could give for the bearings having spun in the rods was that they and rods had overheated as a result of lack of adequate oil flow between the bearings and their crankpins. Oil cools as well as lubricates but it cannot cool as it should unless it flows in sufficient volume to carry away the heat of the members involved.

Oil flow through rod bearings is controlled by the clearance between the bearings and their crankpins and also by the "side clearance" of the rods attached to a crankpin. Side clearance is the difference between the total width of the connecting rod big-ends attached to a crankpin and the distance between the shoulders at the ends of the pins. To correct any possible deficiency in the side clearance, Mel had .005-inch of material ground from the shoulders at the ends of the crankpins, at the same time the pins were ground undersize, to increase the clearance to .010-inch. He then had .005-inch of material ground from each side of the connecting rod big-ends. These changes increased the total side clearance of the rods on each crankpin to .030-inch over stock clearance. As it is possible for connecting rod bearings to throw more oil onto cylinder walls than the rings on the pistons can hold, it will be interesting to see whether such a large amount of side clearance is practical.

Connecting rods used in the engine are unique in that their shanks have been reinforced with members that were cut from

1/16-inch 4130 chrome-moly sheet steel. Two of the members were welded to each rod, one on each side of its shank, by Aircraft Welding Company in North Hollywood, Calif. The addition of these members changed the shape of the shanks from the conventional I beam to a modified box section and added considerable stiffness to the rods.

After having the reinforcing members welded to them, Mel had the rods completely rebuilt. The rebuilding consisted of restoring the rods' insert bearing bores to the standard diameter by machining and honing and then fitting new piston pin bushings to their small-end bores. The rods were straightened to correct any misalignment condition that might have resulted from the welding operation.

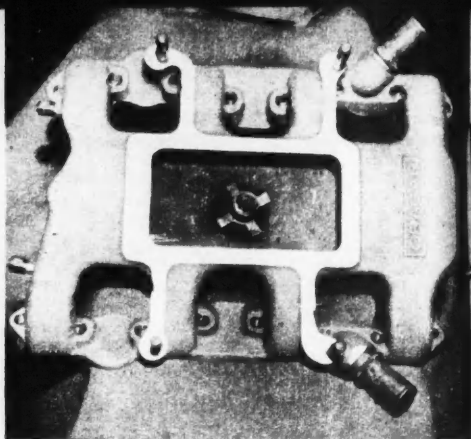


Solid valve lifters and tubular pushrods used with Iskenderian reground camshaft. Pushrod seat in the upper ends of the lifters enable shorter, lighter pushrods to be used.

Pistons now in the engine were made by Jahns Quality Piston Co. in Los Angeles. They differ from regular Jahns production types in that their ring grooves were separated as much as possible to enable the lands between the grooves to be made as wide as the compression height of the pistons would permit. Wider lands were considered necessary after the high combustion pressures made possible by the blower caused the piston rings to literally shear lands of normal width off a previous set of pistons. The top land on the new pistons is 9/16-inch wide, the second land is 7/32-inch, and the third is 5/32-inch. An extra-wide top land helps keep combustion heat off the top ring, enabling the ring to do a better job of holding

## ENGINE ANALYSIS

Cragar intake manifold adapts GMC blower to engine. Fittings at left end of manifold are for pressure gauge; those at right are water outlets. Round object in center of manifold is a spring-loaded valve that opens in the event of a backfire to prevent serious damage to the blower.



compression and combustion pressures. The pistons also have extra-thick heads and skirts to give them additional strength. Deep reliefs in the heads provide adequate valve head clearance.

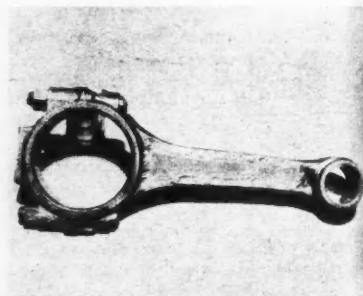
Pin bores in the pistons are of standard Chrysler diameter and Mel uses stock Chrysler pins and pin locks. Clearance between the pins and the bores in the pistons and rods is a full .001-inch. This fit is definitely on the loose side but it was found to be necessary for satisfactory operation. When fitted any tighter than this the pins would "gall," or tear, the surface of the material in the piston bores. Bores in the pistons and rods were honed to the desired diameters. Each piston has three rings—one oil and two compression—and Mel uses Grant rings. The

rings are the same width as standard Chrysler rings.

Skirts on the pistons were factory ground to provide .0105-inch cylinder wall clearance but Mel increased the clearance to .0125-inch by honing the cylinders .002-inch oversize, as mentioned previously. The additional clearance was considered necessary because of the high combustion pressures made possible by the blower. Inspection of the pistons after the engine had been run showed that the clearance is adequate. There was a narrow contact pattern on each side of each piston skirt, as there should have been, but there weren't any scuffed areas that would indicate lack of clearance. The compression height of the pistons is such that the pistons provide a compression ratio of 8 to 1. The crankshaft,



Extremely high combustion pressures, made possible by high blower pressures, made wide lands necessary on the pistons.



Welding bead indicates the outline of the reinforcing member that was welded to the rod's shank. Rod bent in engine blow-up.

ation and rod assemblies, and the flywheel and clutch pressure plate assembly were balanced in C-T's shop.

Cylinder heads are '57 Chrysler. Their combustion chambers are stock with the exception that their surfaces were polished to a smooth finish. Intake and exhaust ports and passages were enlarged slightly to match the openings in stock gaskets and then their surfaces were polished. The intake valve guides, which enter the intake passages at an angle, were shortened so that their side that is nearest the passage surface is flush with the surface. This was done to reduce the restriction created in the passages by the guides. Exhaust valve guides were left stock because they shield part of the valve stems from the heat of the exhaust gases passing through the passages and also because they help conduct heat in the valves to the coolant in the cylinder heads. Intake and exhaust valve ports were enlarged as much as possible to take advantage of the full diameter of the valve heads.

Stock intake and exhaust valves were used but they were lightened by removing material from the top and bottom surfaces of their heads. Their faces were narrowed to widths slightly wider than the .040-inch wide intake valve seats and .070-inch wide exhaust valve seats in the heads. Stock seat angles of 45 degrees were retained for both the intakes and exhausts.

Iskenderian dual valve springs close the valves. The springs exert a total pressure of 160 pounds on the valve stems when the valves are on their seats and approximately 325 pounds when the valves are open. This

tension made it necessary to replace the stock spring retainer washers with Iskenderian hardened-steel washers. Stock split locks are used with the hardened washers.

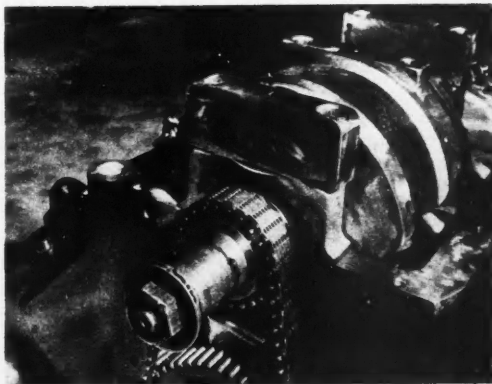
Stock rocker arms fitted with adjusting screws open the valves. Because they are fitted with hydraulic valve lifters, stock Chrysler engines don't have any means for adjusting valve lash. When a reground camshaft and solid lifters are installed, an adjustment of some sort must be provided. This can be done by either installing adjustable pushrods or by having adjusting screws fitted to the stock rocker arms. Adjustable pushrods operate the rocker arms satisfactorily but the locations of the adjusting means when the pushrods are in the engine make adjustments difficult. Adjusting screws in the rocker arms simplify the procedure and shorten the time required to adjust a set of valves to a fraction of that required by adjustable pushrods. The screws were fitted to the rocker arms by Hildebrandt Manufacturing Co. in Santa Fe Springs, Calif.

Installing adjusting screws in the rocker arms made it necessary to provide operating clearance under the rocker arm covers for the exhaust arm screws. This could have been done by either pounding small bubbles in the stock rocker arm covers or by installing covers made for Chrysler marine engines. Covers for marine engines have clearance bubbles and they are interchangeable with standard covers. Mel uses marine covers.

Iskenderian tubular pushrods that have a fitting in their upper end to match the socket in the adjusting screws in the rocker arms and a fitting in their lower end to match the socket in Iskenderian chilled-iron lifters

Steel reinforcing caps on all but the rear main bearing prevent costly and destructive cap breakage. These straps are considerably less expensive than steel main caps and they seem to do the job. Steel caps must be align bored. This adds to the price of their installation.

CONTINUED





# ENGINE ANALYSIS

actuate the rocker arms. The diameter of the pushrods and the angle at which they engage the rocker arms made it necessary to enlarge the passages in the cylinder heads for the intake rods to a diameter of 31/64-inch and then give the upper end of the openings on the side toward the middle of the engine a slight funnel shape with a rotary file. After these things had been done, the pushrods moved through their full range of movement without touching the heads.

The camshaft is an Iskenderian hard-face overlay grind that Isky calls his "Number 71 Five-Cycle Blower Grind." Valve timing with this grind is as follows: Intake valve opens 62 degrees BTC, intake closes 52 degrees ABC, exhaust valve opens 88 degrees BBC, exhaust closes 22 degrees ATC. All valves open .505-inch. Valve lash is .018-inch for all valves. The camshaft is driven by a stock Chrysler sprocket and chain assembly.

A stock oil pump and Pennzoil SAE 30 oil lubricate the engine. At the present time the full-flow oil filter that is standard equipment on the engine isn't being used but the crew plans to install it or a similar filter in the near future. Jim Bennett, of the Pennzoil Co., has been working with the crew to be sure the correct type of lubricant is used.

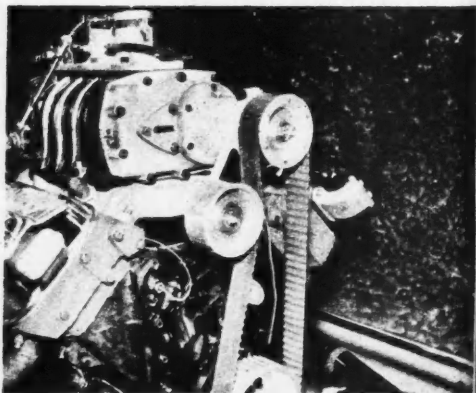
The feature of the engine that gives it a big shot in the cylinders is the 4-71 GMC blower that sits directly in Tommy Ivo's line of vision. The blower was adapted to the engine with a Cragar installation kit. Included in the kit were a cast-aluminum intake manifold that has a backfire valve, a

drive shaft and housing, an idler pulley bracket, a rear cover plate for the blower, and miscellaneous smaller parts. Also included were pulleys and V-belts designed for road use but these were replaced with a timing belt drive that rotates the blower's impellers at 1.5 times crankshaft speed. Pulleys for the timing belts were made by Al Sower, of Sower's Engineering in Burbank, Calif.

For those who aren't familiar with timing belt drives, drives of this type utilize a belt that has rectangular teeth on its driving surface. These teeth are at right angles to the sides of the belt and they are as long as the belt is wide. They engage grooves of corresponding width in pulleys on the driving and driven members. The belts are made of rubber and fabric bonded around small-diameter steel cables that give the belts strength to enable them to carry the loads exerted on them. The drive for this particular installation uses a belt 54 inches long and 2 inches wide. The correct belt tension is maintained by a flat idler pulley that bears against the belt's outer, smooth surface. Drives of this type are positive in that there can't be any slippage between the driving and driven members and it is said that they absorb less horsepower than V-belt drives because there isn't any wedging action of the belts in their pulleys. The drive has been very successful on this engine.

Fuel and air are metered to the blower by a Hilborn injector that bolts to the blower's inlet flange. A fuel feed nozzle in

Timing belt drive for blower is simple yet positive in its action. Drives of this type cannot slip, as can those with V-belts. The major drawback to timing belt drives is their high initial cost and the high cost of replacement belts. This particular belt lists for \$15 and its life isn't long.



Each of the injector's two air inlets sprays fuel under pressure into the air entering the blower. The combined area of the two inlets, less the restriction presented by the throttle valves and their shaft, is 8.86 square inches. This is the injector that was on the engine when the dragster ran 159.01 mph. A new injector that has a total air intake area of 11.87 square inches will be tried on the engine in the near future. Fuel for the injector is supplied by a Hilborn fuel pump driven by a combination pump and distributor drive that takes the place of the engine's standard ignition distributor.

Ignition of the compressed mixture in the cylinders is accomplished by a Joe Hunt Scintilla Vertex Magneto driven by the fuel pump-distributor drive unit. These magnetos have become extremely popular for competition engines. This one has an automatic advance unit that provides 22 crankshaft degrees of advance. The initial timing is set at 32 degrees, giving a total of 54 degrees of advance at crankshaft speeds high enough to move the advance weights in the mag to their full-advance position. This seems to be a lot of advance for an engine of this type and gasoline but power-timing the engine on a dynamometer and trying different timing settings on the drag strip have proved it to be best for this particular engine. Belden spark plug cables connect the spark plugs to the magneto. At the time the car made its record-breaking run the engine was equipped with Lodge R-47 spark plugs.

For an exhaust system, the engine is fitted with an individual exhaust pipe for each cylinder. The pipes sweep down from the cylinder heads, following the angle of the

exhaust passages in the heads, and then curve back toward the rear of the car. They have an inside diameter of 2 inches and each of them is 18 inches long. Their atmospheric ends have a slight bell shape. Opinions about exhaust systems for competition cars vary between individual pipes for each cylinder and pipes that run into a common collector tube but the performance of this engine leaves little doubt as to the efficiency of its system.

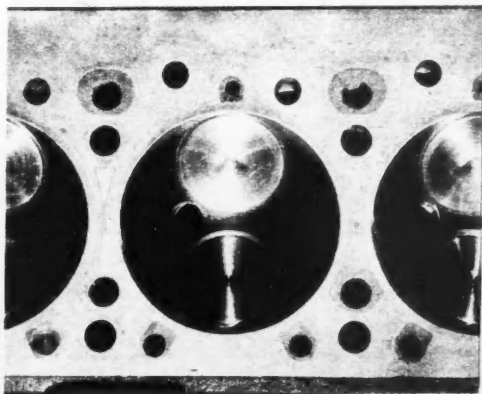
Torque from the engine's crankshaft is transmitted by a Schiefer-Albro aluminum flywheel, which has a bronze friction surface, and a C-T pressure plate assembly to a Velvetouch driven disc.

A C-T pressure plate assembly consists of an 11-inch Long semi-centrifugal assembly fitted with a special pressure plate. The plates are flame-cut from hot-rolled steel plate and driving lugs are welded to them. They are then turned to their finished diameter. Spring tension in the clutch on this engine is only 2500 pounds but the semi-centrifugal feature of the pressure plate assembly boosts the tension considerably at high crankshaft speeds.

Velvetouch clutch discs are heavy-duty discs made originally for trucks and heavy off-the-road equipment. They have metallic friction surfaces that are much more durable than the asbestos-base materials used on stock discs. Discs of this type aren't suitable for normal driving but they give excellent service in drag racing machines.

Single-disc clutches, such as the one in this car, aren't usually recommended for high-gear-only runs but the clutch described has over forty such runs to its credit and it is still going strong. The friction surface of the

Chrysler hemispherical combustion chambers are practically ideal in stock form for high-performance engines. Valves and seats in this head are of stock diameter but the valves have been lightened to improve their performance at high crankshaft speeds. Head is not milled.



CONTINUED ON PAGE 77

MARCH, 1959

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## WHAT'S YOUR PROBLEM?



By **Don Francisco**

### EASY HORSEPOWER

Dear Don:

I have a '39 Ford and would like to know  
what kind of power plant I could drop in it  
without too much work to get the most speed.  
Would it be very much trouble to install a  
'58 Ford in it? Would I have to use a 6 or  
12-volt battery?

— *John L. Everett*  
*St. Joseph, Missouri*

Ford engines for 1958 are large and heavy and  
a used one would probably be quite expensive.  
At the present time there aren't any trans-  
mission adapters listed that would enable one  
of them to be used with a '39 Ford transmission.

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1072-C No. Wilton Pl.  
Hollywood 38, Calif.

Rather than a '58 Ford, I would recommend a '57 or '58 Chevy 283 cubic inch V8 for your car. Adaptors to fit your transmission are available for these engines. The small exterior size and light weight of 283-inch Chevy engines make them ideal for early Ford chassis. In addition to this, they run exceptionally well in stock form and they are easily reworked if a fellow really wants to go.

With either a '58 Ford or a Chevy V8 you would have the problem of a six-volt chassis and a twelve-volt engine. The solutions to this problem are given in an article in the June, '57, issue of Car Craft.

#### SLIPPING GRIPPER

Dear Don:

I have a '57 Ford V8 that has been bored and stroked and has a Weiland three-carburetor intake manifold. I drive the car to work during the week and run it at the drag strip on Sundays. The engine runs fine but lately the clutch has been slipping when I am drag racing. Do you think a Velvetouch clutch disc would be better for my car than a stock disc?

— Aldo McKay  
Fort Worth, Texas

Velvetouch clutch discs are tough and rugged but they aren't suitable for use in a car that is used for normal driving. They are made primarily for trucks and off-the-road equipment.

Velvetouch discs differ from ordinary clutch discs in that they have metallic facings. The metal of which the facings are made is a

CONTINUED

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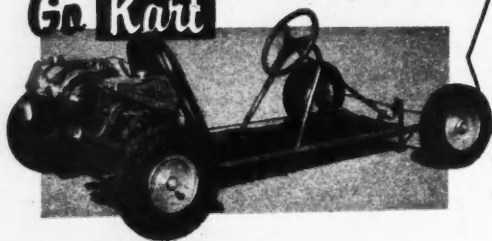
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## WHAT'S YOUR PROBLEM? continued

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Velvetouch discs have become popular for use strictly for drag racing and they are particularly adaptable to the twin-disc clutches available for dragsters that are started in 1st gear. The lack of flexibility between the springs on a Velvetouch disc and the disc itself makes a Velvetouch disc, or any other similarly constructed disc, unsuitable for normal driving because of abrupt engagements that might cause the clutch to chatter.

For your car, I would recommend a stock clutch and one of the many pressure plate assemblies that have higher than stock spring tension. This additional tension enables the pressure plate and flywheel to grip the disc more tightly than they could with a stock pressure plate. A clutch of this type should be entirely capable of holding your engine. To be on the safe side, it would be wise to buy one of the pressure plate assemblies that has a pressure plate of special metal that makes it explosion-proof at high engine speeds. A pressure plate assembly of this type will cost more money than one of a stock type but it is excellent insurance against possible loss of a flywheel housing and foot or two.



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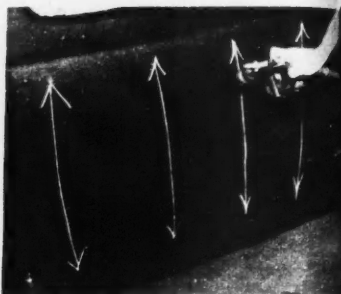
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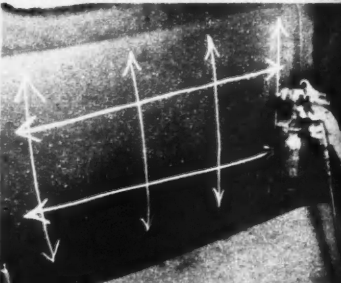
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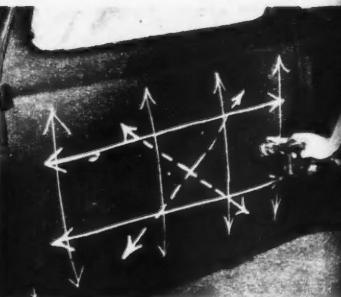
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"Criss-cross" system is completed by moving gun to a diagonal pattern, blending out last application. Many furniture finishers employ same technique for glaze



## ENGINE ANALYSIS

Continued from page 71

Flywheel is badly checked and discolored but it still holds the clutch disc as well as it ever did. The aluminum of the flywheel is undamaged; its condition is still as good as when the wheel was new. The surface of the pressure plate is discolored but it is still good for many more runs. Friction surfaces on the clutch disc have lost some of their material but the loss isn't great enough to cause the clutch to slip. Mel and his crew prefer a single-disc clutch in preference to a dual-disc type, as long as it will do the job, because of its lighter weight. Clutch weight not only has to be carried by the car but it must also be rotated by the crankshaft.

When the Chrysler was first assembled Mel ran it on the dynamometer at C-T. On its first run it developed 435 horsepower and on the second run the dynamometer blew. That was the extent of the engine's dyno time. On the drag strip, the engine turns as high as 7700 rpm. Blower output with the 1.5 to 1 drive ratio is approximately 66 inches of mercury, absolute. With normal atmospheric pressure, this means that the engine is receiving a boost of 17 to 18 pounds per square inch in its induction system. Boost pressure is measured at two points. These are in the manifold passages that feed the rear cylinders in each of the engine's cylinder banks, as close as practicable to the cylinder heads. The car's final rear axle ratio when the record run was made was 3.62 to 1. Fuel used at that time was Associated Premium gasoline that is rated at 102 octane.

The most amazing thing about this dragster, and others like it, is the speed it is running on gasoline. The gap between the record for gas and fuel dragsters is gradually becoming narrower and it isn't at all improbable that in the not too distant future gas cars will be as fast as fuel burners. Supercharging, and the wild things owners of gas engines are doing with it, and the short duration and distance of drag races, are the things that make this possible. The high compression ratios and boost pressures used in the engines of the faster gas cars would be out of the question for greater distances or longer elapsed times than the 9 or 10 seconds required for a 1/4-mile run. On a longer course, owners of most of these cars would find that their engines were truly "blown."

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# CUSTOM QUERIES

BY  
**NEIL EMORY**

## HIDDEN ANTENNA

Dear Neil:

Will a Corvette grille bolt into my '54 Chevy? Also, where can I install the radio antenna so that it will not show? Are there any difficulties encountered with this type of an installation?

— Robert Wasserlein  
 Joliet, Ill.

This assembly can be installed nicely, or you could use a '54 Chev grille with extra leaves installed. This can be done with a minimum of changing. No-Tenna Company, Los Angeles, California, has a hide away antenna for this problem.

## BUICK GRILLE SWITCH

Dear Neil:

Will a '54 Buick grille fit a '50 Pontiac cavity? Can I perform this switch without too much cutting and fitting?

— Tom Shafer  
 Chicago, Ill.

This would require cutting of grille or body of car. These grilles are die castings and are easily broken if not careful during handling. The simpler change is to mount a '54 Pontiac bar and extensions in place of the outer grille section.

A '54 Chevy grille could also be used.

## '58 CHEV REPLACEMENT

Dear Neil:

What can I use in place of the mesh screen in the grille of my '58 Chevy? I want to leave the parking lights where they are.

— Zoel Stuart  
 Edmonton, Alberta

Build a grille of your design of rod, square flat bar stock, etc. Run them horizontal or ver-

Leave your park lights where they are and fit around them. Support them so you avoid vibration. Steel can be used, then chrome plating must be done. If aluminum is used, polish it.

#### FIBERGLASS OR METAL?

Mr. Neil:

Can I fiberglass '54 Ford rings to french lights on my '49 Chevrolet? If these do work, what do you suggest I use?

— W. E. Lutz, Jr.  
Florence, Oregon

I cannot speak for methods used in working with fiberglass. We do not use glass in our shop. We would form the shape of the rims in metal and weld the assembly to the car.

#### GRILLE PROBLEM

Mr. Neil:

Will a '56 Ford grille, with parking lights, fit a '54 Chevy grille fit in my '53 Ford? About too much trouble? How much work will it be and what do I have to do?

— Steve Ester  
Willis, Michigan

A '56 Ford grille would have to be cut in the center about 6 or 7 inches. Some forming will be needed in the park light areas. The '54 Chevy grille can be attached across the top in a notch of the upper '53 grille bar.

The '54 Chev grille will be the simplest to install. Use the '53 Ford grille bar ends to attach to the Chev grille. They can be reshaped and trimmed to fit. It is not necessary to weld the parts together. Rechroming may be needed on Ford parts when finished, depending on condition.

#### HOOD HUNTING

Mr. Neil:

I have a problem. Namely, will a '55 Ford hood fit a '52 Ford?

— Jay Truly  
Campbellsport, Wisc.

A '55 Ford hood could be used, but will involve problems which you may not be able to handle. You could French a '53 Ford upper grille shell to your '52 hood. This would be much simpler and would give you the same appearance.

#### PONTIAC/FORD COMBO

Mr. Neil:

How can I fit a '54 Pontiac grille to my '54 Ford Vic? Also, I would like to know what the best method is when filling-in holes in a car? Is body lead my best bet?

— J. L. Shuttlesworth  
Troup, Texas

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To install the Pontiac grille remove stock grille. Fit Pontiac grille in same position. Weld the back corner edge of the grille to clear the fenders. Brackets can be made to support the grille in these same rear corners. Also, attach grille to outer stock grille and latch plate support. It is now necessary to remove the chrome plating from the stock grille extensions and weld about 1 1/2" of metal to each, thus extending them to match the Pontiac grille bar. Rechroming will be needed on the Ford extensions only. A small screw can be installed on the under edge of the extensions into the Pontiac bar for good fit. To fill holes, weld a smooth, leading may be necessary.

### CHEVY GRILLE

Dear Neil:

What type of grille can I install in my '49 Chevrolet? I don't have much experience in customizing, so I would appreciate it if it did not require much modification.

— Bill Davidson  
Lakewood, Calif.

The best treatment of modifying grilles when you are limited is to retain all outer edges of present grille making changes in the center areas only. Cones, teeth, bars, mesh, etc., can be fitted to the remaining openings lending a good design if you use judgement when planning your design.

CONTINUED

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The most sensational customizing product in years Featured in recent issues of Rod and Custom and Custom Cars Magazines — Formulated by George Barris — Mr. Custom Car himself — Transparent Coloring for Chrome — the (mirror like) reflection of chrome shows through —

4 Dazzling Colors in 16 oz. Spray Can

## HONEST'S No.

KK-1 Pagan Gold

KK-2 Candy Apple Red

KK-3 Oriental Blue

KK-4 Parisian Green

16 oz. Can \$1.98

For Chrome — Stainless Steel — Polished Aluminum



## CHROME TAPE

A GLEAMING SELF STICKING Chrome Tape for thousands of customizing ideas. FEATURED in May issue of Rod and Custom Magazine—Use on dash or outside. Many Household Applications.

CAN BE TINTED WITH KOLOR-KROME PAINT—

Each Roll Contains 72 yards of self sticking tape.



## HONEST Nos. WE PAY POSTAGE

C77014-1/4" wide 72 yd. roll each \$2.95

C77038-3/8" wide 72 yd. roll each 3.50

C77012-1/2" wide 72 yd. roll each 3.95

C77034-3/4" wide 72 yd. roll each 5.25

SOM-RAY STREET TYPE  
SPUN ALUMINUM  
WHEEL DISC

For Street use—Same quality and design

as our Famous Racing Discs—But Snap on like Hub Caps

14" — 15" — 16"

Must Know Size \$2.95 Each — You Pay Post.

HONEST No. 49A



## SOM-RAY SPUN ALUMINUM

## WHEEL DISCS

## HEAVY GAUGE

For Draggin'

For the Street

New Low Price,

\$2.95 Each 14" 15" 16"

STATE TIRE SIZE

We pay Postage

HONEST No. 49

NEW FIESTA TYPE CHROME  
WHEEL COVERS WITH  
CHECK BACKGROUND

14" or 15"

For all cars — Replaces original factory type.

3 BAR  
SPINNER

Heavy

Construction.

Space for

Weights

Set of 4

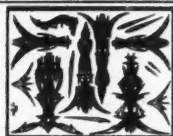
\$28.95

HONEST No. 40

Set of 2 \$14.50

HONEST No. 41

(State size of Wheel)



## PINSTRIPING

12 Separate Designs

Per Set

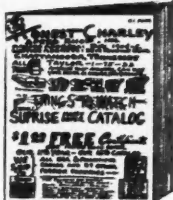
Colors: Red-Gold-White-Black

Each set of 12 Designs

only \$1.00 postpaid

HONEST No. 39

## NEW CATALOG



## CALIFORNIA SCALLOPS

New Exclusive dream car Scallops that defy detection from \$75-\$100 hand painted jobs, designed by Dean Jeffries, famous pin stripe specialist—Easy to apply in seconds with water. Each Kit Contains 26 large Decals on 2 sheets (22"x30") Choice of Silver shaded into Gold or Gold shaded into Silver—Say which.



Each Kit of 26 Decals \$4.95

HONEST No. 76

We Pay Postage

## STAR FIRE SPINNER



For All Hub Caps — easily

attached with screws —

HONEST No. 77 Each \$2.95

We Pay Postage

SEND 25¢ FOR NEW 1959

MONEY SAVER CATALOG

BIGGER—BETTER THAN

EVER—MORE PAGES—

EACH CATALOG CONTAINS

\$1.00 FREE CERTIFICATE.

GET NEXT ISSUE FREE.

SEND 25% DEPOSIT ON C. O. D. — SEND FULL AMOUNT ON ITEMS MARKED PREPAID NO C.O.D.s FOR LESS THAN \$5.00

My car is a \_\_\_\_\_ Year \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Quantity	Part No.	Description	Price

HONEST CHARLEY SPEED SHOP, INC.

Box CC 1904

Chattanooga, Tenn.

## EASTERN H.Q.

FOR ALL 1/4 MIDGETS  
AND PARTS



We are the eastern distributors for  
Most 1/4 & 1/2 midgets.

### CALIFORNIA SPEED & SPORT

294 Jersey Ave., CC-3  
New Brunswick, N.J. KI 5-0311  
Send 25¢ for Illustrated Catalog

*Hildebrandt*  
MFG CO.

## ENGINE ADAPTORS

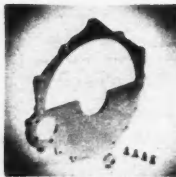
... for most installations!

### ADAPTOR

All O.H.V. V-8  
Chevy engines to  
all Ford products  
from 1932-57.

#55-3.... \$42.50

'55-'56 Chevrolet  
Oil Filter By-Pass  
\$9.50



Chet Herbert's 272 M.P.H. Chevy powered  
streamliner Featured Hildebrandt adaptors



Chrysler, Dodge, DeSoto, and Plymouth adjustable  
rocker arms. Send us yours—we drill and tap  
rocker arms, clean oil holes, re-face, and furnish  
adjustable screws and lock nuts.....\$29.50  
(Dodge is \$8.75 extra, or send Chrysler intake  
rocker arms.)

We manufacture or distribute most any item of  
speed equipment. Your dealer or write Dept. CC-3  
"Specify Hildebrandt Equipment"

### HILDEBRANDT MFG. CO.

10336 Norwalk Blvd., Santa Fe Springs, Calif.  
Phone UXbow 6-3617

## CUSTOM QUERIES

### MERC QUESTIONS

Dear Neil:

I am customizing a '46 Merc and am  
stumped for a plain hood. Will a '46 Plymouth  
mouth work? If not, what will?

Can I work '54 Chev taillights in fairly  
easily? Do you have any suggestions for a  
grille?

— Jay Park  
Miami, Fla.

Fill all the holes in your '46 Merc hood. Do  
not try changing hoods, this is more work than  
you bargained for. A good deal of forming is  
required to mount '54 Chev lights on your Merc.  
If you are looking for the simplest change,  
use '41 Stude lights mounted horizontally.

Install horizontal bars in your grille opening  
for a clean design. You can enlarge the  
opening to incorporate lower grilles also.

### FRONT FACELIFT

Dear Neil:

I own a '56 Ford and was wondering how  
much work would be involved to install the  
complete headlight units from a '56 or '57  
Oldsmobile? To go along with the headlight  
design, what type of grille could I use?

— Roy Almstead  
Flagstaff, Arizona

By using '56 Olds headlight rims only, you  
can extend the metal and form it to fit the  
Olds rims. Your '56 Ford light units can be  
retained for this modification. This is not too  
much work if you are able to work a torch,  
and it will look good, too. You can install a  
custom bar grille which can be obtained from  
your accessory stores, or build your own.

## COMING ATTRACTION

*Girl and Grille!*  
*Dorene Georgeson, double title*  
*holder of Southern California*  
*Snow Queen and Miss Mount*  
*Baldy, gives a smudgy smile after*  
*learning how to install the*  
*versatile '58 Buick grille. For new*  
*ideas and many ways to use*  
*this popular grille—Don't miss*  
*April CAR CRAFT.*

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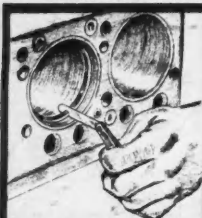






## HERE'S HOW NORM THATCHER DOES IT WITH ..... PROPER RING CLEARANCES

### YOUR PART — PROPER CLEARANCES



**BUTT GAP:** The faster you go, the more sustained R.P.M.s you turn, the more heat is generated, the more Butt Gap clearance you should allow.

The General Rule of Thumb is .003" per inch of piston diameter. For a 4" diameter, then, you would use .012 Butt Gap Clearance. At a sustained 6500 rpm, however, you should allow at least 3 times .012" to prevent ring breakage due to ring growth.



**PISTON TO WALL CLEARANCE:** The Piston travel at the bottom of the piston (skirt) should be between .025" and .035" to prevent "rocking". At piston top—to cylinder wall, clearances vary according to type of fuel, speeds intended, and the individual's idea of "drag". Usual clearance would be from .008" to .017". Extreme .025" (Damage to the upper rings may occur due to heat when extreme clearances are used).



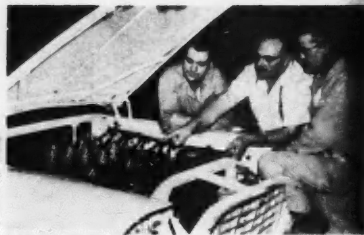
**SIDE CLEARANCE:** To prevent power loss around the back of your rings, measure with a feeler gauge the clearance between the rings and piston lands. Allow about .003" for the Top Compression Ring, .002" for the second compression ring and .002" for each Oil Ring. Regroove any worn grooves.

### OVER 40 YEARS OF KNOW-HOW PAYS OFF—

For a two-way measured mile average 156.387 m.p.h. at Bonneville . . . Norm Thatcher (now a grandfather) shows the way in the stock body, gas-class.

In getting his mighty Chrysler 300D ('58) up to such speed, an amazing accomplishment, Norm's achievement is magnified by doing it in this 5020-pound Coupe-Sedan. Both man and fine automobile are to be congratulated.

Says Norm, "I made 37 runs—average time for all 37 runs was over 150 m.p.h.—using the same set of stock GRANT PISTON RINGS, their good performance, of course, speaking for themselves. As well as having this excellent product that I've used for years, I want to emphasize the importance of using the right piston and ring clearances: the basis for record-making."



### NEW RECORD: E Coupe and Sedan, Gas.

Norm Thatcher, owner-driver of this mighty Chrysler 300D, of Van Nuys, California, garage operator, discusses his Chrysler's progressive throttle linkage system with his pit crew, Virgil Parsons, left, and Bill LaRoy.

### OUR PART



- 1. Ring Material:**  
The finest grey cast iron, chromed where helpful.
- 2. Ring Design:**  
Torqued combinations for blowby control; Self-flushing for inner-milled rings for perfect oil control.
- 3. Ring Finish:**  
"Lubrite" coated for excellent mating and bearing surfaces. Quick-seating finish for normal uses; Protective chromed, to combat high abrasives where encountered.
- 4. Swedish Steel Equalizing Springs** to insure ring conformity at all operating speeds.



"THE RING LEADER"  
**Grant**  
PISTON RINGS  
(Established 1922)

Proper  
Cylinder Wall  
Finish  
at  
**Grant**

GRANT and GRANT, 243 N. Westmoreland Ave., Los Angeles 4, Calif.  
Gentlemen: Send me a copy of your  
"PROPER CYLINDER WALL PREPARATION"

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

The curve of business is going up, and up, and up! This includes the Speed Shop business . . . GRANT PISTON RINGS wants to help you fill customer needs in your district . . . You must have a leader to draw in the business. GRANT is the RING LEADER, so drop us a line for GRANT'S "just-right" profitable set up for '58.

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